CONTRIBUTIONS FROM THE UNIVERSITY
OF MICHIGAN HERBARIUM, NO. 8

FLORA OF EASTERN TABASCO AND ADJACENT MEXICAN AREAS

BY

CYRUS LONGWORTH LUNDELL

STUDIES OF AMERICAN SPERMATOPHYTES—III

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MAP

1. Map of the lowlands of southeastern Mexico (*facing*) 6

FLORA OF EASTERN TABASCO AND ADJACENT MEXICAN AREAS*

THROUGH 1938 six expeditions for botanical exploration in the Mayan area were sent out under the joint auspices of the University of Michigan and the Carnegie Institution of Washington. These undertook surveys in Yucatán, Campeche, Quintana Roo, British Honduras, the Department of Petén, Guatemala, and the Huastecán country of San Luis Potosí.

None of the expeditions visited the extreme western part of the Yucatán Peninsula and adjacent lowlands of southeastern Mexico. Few areas of equal size or importance in Mexico had been so completely neglected by botanists. Prior to 1939, not a single plant collection worthy of note had ever been made in eastern Chiapas, eastern Tabasco, or extreme western Campeche. The writer in 1932 explored the San Pedro de Mártir River in Petén almost to the Mexican border,[1] and this preliminary reconnaissance trip established that the forest of that area was similar in aspect to the forest of central Campeche and central Petén. To obtain additional data regarding the vegetation, a representative plant collection from various sectors of the region was desirable.

Mr. Eizi Matuda, who has collaborated with the University of Michigan Herbarium in his study of the Mexican flora, was induced by the writer in 1939 to botanize along the Usumacinta River and tributaries. The trip was financed in part by a grant from the Carnegie Institution of Washington and by the sale of duplicate sets of specimens. From May 9 through July 28, 1939, Matuda collected in the region. His field work began at Balancán, extended up the San Pedro de Mártir River to the Petén border, across to Tenosique through San Isidro, along the Usumacinta River from Estapilla south again to the Petén border near Piedras Negras, across to the Chacamax River in Chiapas, up to Palenque,

* This paper has been published with funds derived from the income of the endowment of the Horace H. Rackham School of Graduate Studies of the University of Michigan.

[1] C. L. Lundell, *The Vegetation of Petén, Carnegie Inst. Wash. Publ.*, No. 478. 1937.

northeast to Aguacate and E. Zapata, and down the Usumaçinta River to Palizada, Campeche. From Palizada he went to Vapor where the final collections of the trip were made. The principal localities are designated on Map 1.

Matuda obtained 911 numbers of plants, his series *3003* through *3914*, a total of 5230 specimens representing approximately 700 species. The first set of the collection is in the University of Michigan Herbarium.

His collection localities, some of which were only temporary camps (*champas*), are listed below approximately in the order in which he visited them. Matuda often abbreviated localities on the labels, and his abbreviations (or misspellings) are enclosed by parentheses. Further, in giving the locality in which a particular collection was made, he indicated first the last large town through which he had passed, or the principal town in the district. Hence for his collections at La Palma, which is quite removed from Balancán (Map 1), his labels read "Tabasco, Balancán, La Palma." Although at times confusing, his practice has much to commend it where obscure localities are involved.

TABASCO

1. Balancán—on the Usumacinta River below the mouth of the San Pedro de Mártir River.
2. Mercedes—west of Balancán on the road to Las Cruces.
3. Achotal—about eight miles east of Balancán.
4. Ojo de Agua (Ojo' Agua)—about five miles southeast of Balancán.
5. Reforma—a *finca* east of Balancán and north of Limón on the San Pedro de Mártir River. Most of the collections were made at a camp set up by Matuda and his assistants in the high forest about ten miles north of Reforma.
6. La Lucha—about six miles south of Balancán.
7. Provincia—near Reforma on the San Pedro de Mártir River. Near Reforma the river is practically impassable, and boats operating into Petén make headquarters at Provincia.
8. La Palma—on the San Pedro de Mártir River east of Tenosique and near the Petén border.

MAP OF LOWLANDS OF SOUTHEASTERN MEXICO

SCALES
Kilometers
10 5 0 10 20 30 40 50
Miles
10 5 0 10 20 30 40 50

95° 94° 93° 92° 91°
19° 18° 17°

GOLFO DE MÉXICO
CAMPECHE
LAGUNA DE TERMINOS
Ciudad del Carmen
Alvaro Obregón (Frontera)
Río Usumacinta
Río Grijalva
Río Chilapa
R. Chilapilla
Palizada
Vapor
Río Palizada
Río Chilapa
Puerto México (Coatzacoalcos)
Comalcalco
Atasta
Villahermosa (S. Juan Bautista)
Huimanguillo
Río Grijalva
Macuspana
R. Macuspana
San Diego
Salto de Agua
Teapa
Río Tacotalpa
Río Chacamax
(Montecristo) E. Zapata
Balancán
Reforma
Provincia
Río San Pedro
Aquacate
Palenque
Javalinero
Estapilla
Tenosique
S. Isidro
La Palma
Boca del Cerro
Santo Tomás
Retiro
Piedras Negras
Río Usumacinta
Moyos
Tila
Río Balujil
Tumbalá
Simojovel
Ococingo
MESA CENTRAL
CHIAPAS
GUATEMALA
VERACRUZ
Jaltipan
Minatitlán
Río Coatzacoalcos
Jesús Carranza
(Sta. Lucrecia)
Río Coatzacoalcos
CRUZ
OAXACA
Río Grijalva
Río Coatzacoalcos

MAP 1

9. San Isidro (S. Isidro)—an overnight muleteer camp (*champa*) in high forest about midway between La Palma and Tenosique.

10. Juarez—about five miles from Tenosique.

11. Tenosique—on the Usumacinta River south of Balancán.

12. Retiro—south of Tenosique near the Petén boundary. Collections from this locality were made southward into Petén and northward to a point on the Usumacinta River called Santo Tomás (a *champa*).

13. Estapilla—on the Usumacinta River north of Tenosique.

14. Boca del Cerro (Boca Cerro)—a gorge on the Usumacinta River southwest of Tenosique (Pl. I). It is near the place designated on some maps as Santa Margarita.

CHIAPAS

15. Javalinero (also spelled Jabalinero)—a ranch on the bank of the Chacamax River about twelve miles below Palenque (Pl. IV).

16. Palenque (Rvina)—ruins of the ancient Mayan city.

17. Sierra de Palenque (Cerro de Palenque)—the ridge south and southwest of Palenque.

18. Aguacate—a ranch in the savanna country midway between Palenque and E. Zapata (formerly Montecristo).

CAMPECHE

19. Palizada—a town about midway down the Palizada River.

20. Vapor—a ranch on the Marente River east of Palizada.

From the collections, Matuda's diary, which gives a brief account of the country traversed, and his photographs, it is evident that the vegetation of the region differs little from that of Petén. In the vicinity of old towns and settlements, savannas alternate with second growth, and these give way to old advanced forest in outlying districts. The savanna country of the Palenque sector (Pl. III) is almost identical with that of the La Libertad country of Petén;[2] differences in the flora are negligible. Old advanced forest is to be found in remote localities such as San Isidro, Retiro, Boca del Cerro (Pls. I and II), and Javalinero (Pl. IV). Most of the

[2] *Ibid.*, Pl. 35.

species have been collected elsewhere in the Yucatán Peninsula, and the others doubtless will be found in adjacent areas of Campeche and Petén. Although his collection probably represents less than a third of the total fern and phanerogamic flora of the areas traversed, we can anticipate that the whole flora is essentially the same as that of the southern two-thirds of the Yucatán Peninsula.

Explorations of Mr. Llewelyn Williams in the isthmus of Tehuantepec, Mexico[3] and the writer's collections from Tamazunchale, San Luis Potosí,[4] indicate that many elements of this wet lowland flora range northward along the coast to the Panuco River.

Since the collection is the first of importance from eastern Tabasco and adjacent Mexican areas, the following enumeration is the first major contribution to our knowledge of the flora of the region. Approximately 700 species are listed in the following catalogue. Although no novelties are described in this report, thirty-eight published elsewhere have been based primarily on the collection. All notes on habit, habitats, vernacular names, etc., were supplied by Matuda on the labels of the first set of specimens now in the University of Michigan Herbarium. Six of the species described from the collection and two others of particular interest are illustrated.

POLYPODIACEAE

(Determined by W. R. Maxon, Washington)

ACROSTICHUM DANEIFOLIUM L. & F.—Tabasco: Boca del Cerro, in swamp, July 1–5, *Matuda 3547.*

ADIANTOPSIS RADIATA (L.) Fée.—Tabasco: La Palma, in advanced forest, June 1–6, *Matuda 3330.*

ADIANTUM DECORATUM Maxon & Weatherby.—Tabasco: La Palma, in advanced forest, June 1–6, *Matuda 3328.*

ADIANTUM LATIFOLIUM Lam.—Chiapas: ruins of Palenque, in advanced forest, July 10–12, *Matuda 3678.*

[3] Llewelyn Williams, "Arboles y arbustos del istmo de Tehuantepec, Mexico," *Lilloa,* 4: 137–71. 1939.

[4] C. L. Lundell, "Studies of Mexican and Central American Plants—IV," *Field and Lab.,* 6: 9–16. 1937.

ADIANTUM OBLIQUUM Willd.—Tabasco: La Palma, in advanced forest, June 1–6, *Matuda 3325*.

ADIANTUM PETIOLATUM Desv.—Tabasco: San Isidro, June 7–11, *Matuda 3336*.

ADIANTUM VILLOSUM L.—Tabasco: Reforma, in advanced forest, May 22–26, *Matuda 3205*.

ADIANTUM WILSONI Hook.—Chiapas: Javalinero, in advanced forest, July 6–9, *Matuda 3616*.

ASPLENIUM CRISTATUM Lam.—Tabasco: La Palma, in advanced forest, June 1–6, *Matuda 3307*.

ASPLENIUM FORMOSUM Willd.—Tabasco: La Palma, in advanced forest, June 1–6, *Matuda 3331*.

ASPLENIUM SERRATUM L.—Tabasco: Retiro, on limestone in advanced forest, June 19–25, *Matuda 3463*.

BLECHNUM FRAXINEUM Willd. (?).—Chiapas: Javalinero, in advanced forest, July 6–9, *Matuda 3612*.

BLECHNUM SERRULATUM Rich.—Tabasco: Achotal, east of Balancán, in savanna, May 9–14, *Matuda 3088*.

BOLBITIS CLADORHIZANS (Spreng.) Ching.—Tabasco: San Isidro, in advanced forest, June 7–11, *Matuda 3379*.

CYCLOPELTIS SEMICORDATA (Sw.) J. Sm.—Tabasco: Retiro, in advanced forest, June 19–25, *Matuda 3436*.

DICTYOXIPHIUM PANAMENSE Hook.—Chiapas: Javalinero, in advanced forest, July 6–9, *Matuda 3606*.

DRYOPTERIS DENTATA (Forsk.) C. Chr.—Tabasco: San Isidro, in advanced forest, June 7–11, *Matuda 3363, 3366A*.

DRYOPTERIS GONGYLODES (Schk.) Kuntze.—Tabasco: San Isidro, in swamp, June 7–11, *Matuda 3338*.

DRYOPTERIS LIEBMANNII M. & M.—Chiapas: Javalinero, in advanced forest, July 6–9, *Matuda 3603*.

DRYOPTERIS SERRATA (Cav.) C. Chr.—Tabasco: La Palma, in advanced forest, June 1–6, *Matuda 3301*.

GYMNOPTERIS RUFA (L.) Bernh.—Tabasco: Retiro, in advanced forest, June 19–25, *Matuda 3415*.

NEPHROLEPIS BISERRATA (Sw.) Schott.—Tabasco: Mercedes, on palm tree at riverside, May 9–14, *Matuda 3021*.

NEPHROLEPIS PENDULA (Raddi) J. Sm.—Tabasco: La Palma, on tree at edge of forest, June 1–6, *Matuda 3332.*

POLYPODIUM ANGUSTIFOLIUM Sw.—Chiapas: ruins of Palenque, on tree, July 10–12, *Matuda 3705.*

POLYPODIUM PALMERI Maxon.—Tabasco: La Palma, on tree, June 1–6, *Matuda 3304.* Campeche: Vapor, July 25–28, *Matuda 3884.*

POLYPODIUM PECTINATUM L. (?).—Tabasco: San Isidro, June 7–11, *Matuda 3372.*

POLYPODIUM PHYLLITIDIS L. (?).—Tabasco: San Isidro, on tree at lakeside, June 7–11, *Matuda 3368.*

POLYPODIUM POLYPODIOIDES (L.) Watt.—Tabasco: Boca del Cerro, on tree, July 1–5, *Matuda 3572.*

PTERIS GRANDIFOLIA L.—Tabasco: Retiro, in advanced forest, June 19–25, *Matuda 3442;* Boca del Cerro, at edge of swamp, July 1–5, *Matuda 3534, 3554.*

PTERIS LONGIFOLIA L.—Tabasco: Boca del Cerro, on limestone, July 1–5, *Matuda 3535*

STENOCHLAENA RECURVATA (Fée) Liebm.—Chiapas: Javalinero, on tree in advanced forest, July 6–9, *Matuda 3652.*

TECTARIA HERACLEIFOLIA (Willd.) Underw.—Tabasco: Retiro, June 19–25, *Matuda 3416.*

VITTARIA LINEATA (L.) J. E. Sm.—Tabasco: Reforma, May 22–26, *Matuda 3212.*

SCHIZAEACEAE

(Determined by W. R. Maxon, Washington)

LOPHIDIUM ELEGANS (Vahl) Presl.—Chiapas: ruins of Palenque, in advanced forest, July 10–12, *Matuda 3662.*

LYGODIUM HETERODOXUM Kunze.—Chiapas: Sierra de Palenque, in advanced forest, July 14, *Matuda 3720,* a vine.

LYGODIUM MEXICANUM Presl.—Chiapas: Sierra de Palenque, at edge of forest, July 14, *Matuda 3716.*

SALVINIACEAE

(Determined by W. R. Maxon, Washington)

SALVINIA AURICULATA Aubl.—Tabasco: La Palma, in lake, June 1–6, *Matuda 3274.*

LYCOPODIACEAE

(Determined by W. R. Maxon, Washington)

LYCOPODIUM CERNUUM L.—Chiapas: Aguacate, in savanna, July 16–18, *Matuda 3781.*

SELAGINELLACEAE

SELAGINELLA sp.—Chiapas: ruins of Palenque, in advanced forest, July 10–12, *Matuda 3676.*

SELAGINELLA sp.—Chiapas: ruins of Palenque, in advanced forest, July 10–12, *Matuda 3691.*

SELAGINELLA sp.—Chiapas: ruins of Palenque, July 10–12, *Matuda 3702.*

CYCADACEAE

ZAMIA FURFURACEA L. f.—Tabasco: Ojo de Agua, southeast of Balancán, in savanna, May 9–14, *Matuda 3117.*

POTAMOGETONACEAE

POTAMOGETON sp.—Campeche: Vapor, in lake, July 25–28, *Matuda 3876.*

ALISMACEAE

SAGITTARIA LANCIFOLIA L.—Tabasco: La Palma, riverside, June 1–6, *Matuda 3251.* Campeche: Palizada, in swamp, July 25–28, *Matuda 3840;* Vapor, in swamp, July 25–28, *Matuda 3886,* flowers white. The specific determination is somewhat uncertain, and more than one species may be represented.

GRAMINEAE

(Determined by Agnes Chase, Washington; LeRoy H. Harvey, Ann Arbor)

ANDROPOGON BICORNIS L.—Chiapas: Palenque, in savanna, July 9–14, *Matuda 3726.*

ANDROPOGON BOURGAEI Hack.—Chiapas: Aguacate, July 16–18, *Matuda 3795.*

ANDROPOGON CONDENSATUS H. B. K.—Chiapas: Palenque, in savanna, July 9–14, *Matuda 3741.*

ANDROPOGON SELLOANUS (Hack.) Hack.—Chiapas: Palenque, in savanna, July 9–14, *Matuda 3723.*

ARTHROSTYLIDIUM SPINOSUM Swallen, *Journ. Wash. Acad. Sci.*, 28: 6. 1938.—Tabasco: Retiro, in advanced forest, June 19–25. *Matuda 3454*, 7–9 m. high, 2–3 cm. in diameter, clambering.

AXONOPUS PURPUSII (Mez) Chase.—Tabasco: Achotal, east of Balancán, May 9–14 *Matuda 3089*. Chiapas: Palenque, in savanna July 9–14, *Matuda 3737*.

BOUTELOUA HIRSUTA Lag.—Tabasco: Estapilla, in savanna, June 27, *Matuda 3506*.

CENCHRUS BROWNII R. & S.—Tabasco: La Palma, in second growth, June 1–6, *Matuda 3248*.

ECHINOCHLOA WALTERI (Pursh) Heller.—Campeche: Palizada, in swamp, July 25–28, *Matuda 3839, 3842*.

ERAGROSTIS ELLIOTTII S. Wats.—Chiapas: Aguacate, July 16–18, *Matuda 3799*.

ERAGROSTIS HYPNOIDES (Lam.) B. S. P.—Tabasco: Reforma, May 22–26, *Matuda 3158*. Campeche: Palizada, swampside, July 25–28, *Matuda 3864*, vernacular name, *pan caliente*.

ERIOCHLOA PUNCTATA (L.) Desv.—Tabasco: Retiro, riverside, June 19–25, *Matuda 3431*. Chiapas: Palenque, in savanna, July 9–14, *Matuda 3759*.

ERIOCHRYSIS CAYENNENSIS Beauv.—Chiapas: Palenque, in savanna, July 9–14, *Matuda 3750*.

GUADUA ACULEATA Rupr.—Tabasco: Reforma, May 22–26, *Matuda 3198*, trunk 8 cm. in diameter.

HETEROPOGON CONTORTUS (L.) Beauv.—Tabasco: Estapilla, June 27, *Matuda 3509*.

HOMOLEPIS ATURENSIS (H. B. K.) Chase.—Chiapas: Palenque, in savanna, July 9–14, *Matuda 3736*.

HYMENACHNE AMPLEXICAULIS (Rudge) Nees.—Campeche: Vapor, swampside, July 25–28, *Matuda 3892*.

LASIACIS DIVARICATA (L.) Hitchc.—Tabasco: La Palma, in second growth, June 1–6, *Matuda 3242*.

LASIACIS PROCERRIMA (Hack.) Hitchc.—Chiapas: Sierra de Palenque, southern slope, July 14, *Matuda 3718*.

LASIACIS RUSCIFOLIA (H. B. K.) Nees.—Tabasco: La Palma, June 1–6, *Matuda 3292*.

LEPTOCORYPHIUM LANATUM (H. B. K.) Nees.—Tabasco: Achotal, east of Balancán, May 9–14, *Matuda 3106*. Chiapas: Palenque, in savanna, July 9–14, *Matuda 3760*.

MANISURIS GUIANENSIS Hitchc.—Tabasco: Achotal, east of Balancán, in savanna, May 9–14, *Matuda 3144A*. According to Mrs. Chase, this species has been known previously only from British Guiana and Brazil.

MANISURIS RAMOSA (Fourn.) Hitchc.—Chiapas: Aguacate, July 16–18, *Matuda 3774*.

MESOSETUM BLAKEI Swallen.—Chiapas: Palenque, in savanna, July 9–14, *Matuda 3738, 3743* (det. Swallen).

OLYRA YUCATANA Chase.—Tabasco: La Palma, in advanced forest, June 1–6, *Matuda 3244*.

ORYZA LATIFOLIA Desv.—Campeche: Vapor, in swamp, July 25–28, *Matuda 3901*.

PANICUM CYANESCENS Nees.—Chiapas: Aguacate, July 16–18, *Matuda 3769, 3792*.

PANICUM HIRSUTUM Swartz.—Tabasco: Boca del Cerro, in second growth, July 1–5, *Matuda 3577*. Chiapas: Javalinero, in second growth, July 6–9, *Matuda 3632*.

PANICUM HIRTICAULE Presl.—Chiapas: Javalinero, in second growth, July 6–9, *Matuda 3640*.

PANICUM ICHNANTHOIDES Fourn.—Chiapas: Palenque, in savanna, July 9–14, *Matuda 3722*.

PANICUM LAXUM Swartz.—Campeche: Vapor, July 25–28, *Matuda 3899*.

PANICUM RUDGEI Roem. & Schult.—Tabasco: Achotal, east of Balancán, May 9–14, *Matuda 3087*.

PANICUM ZIZANIOIDES H. B. K.—Campeche: Vapor, July 25–28, *Matuda 3896*.

PASPALUM CAESPITOSUM Flügge.—Tabasco: La Palma, in advanced forest, June 1–6, *Matuda 3289*.

PASPALUM LINEARE Trin.—Chiapas: Aguacate, July 16–18, *Matuda 3772, 3800*. According to Mrs. Chase, this is the first record for the species on the continent north of Costa Rica.

PASPALUM ORBICULATUM Poir.—Tabasco: Reforma, May 22–26, *Matuda 3206*.

PASPALUM PLICATULUM Michx.—Tabasco: Achotal, east of Balancán, May 9–14, *Matuda 3069*.

PASPALUM VIRGATUM L.—Tabasco: Estapilla, in savanna, June 27, *Matuda 3519*.

PENTARRHAPHIS SCABRA H. B. K.—Tabasco: Estapilla, in savanna, June 27, *Matuda 3503*. Chiapas: Palenque, in savanna, July 9–14, *Matuda 3742*.

PHARUS LATIFOLIUS L.—Chiapas: Javalinero, in advanced forest, July 6–9, *Matuda 3604*.

SETARIA GENICULATA (Lam.) Beauv.—Tabasco: Retiro, riverside, June 19–25, *Matuda 3430*.

SETARIA TENAX (L.) Desv.—Chiapas: Aguacate, July 16–18, *Matuda 3806*.

SORGHASTRUM SETOSUM (Griseb.) Hitchc.—Chiapas: Palenque, in savanna, July 9–14, *Matuda 3733;* Aguacate, July 16–18, *Matuda 3770, 3773*.

STREPTOGYNE CRINITA Beauv.—Chiapas: Javalinero, in advanced forest, July 6–9, *Matuda 3637*.

TRACHYPOGON ANGUSTIFOLIUS (H. B. K.) Nees.—Tabasco: Achotal, east of Balancán, May 9–14, *Matuda 3105;* Estapilla, in savanna, June 27, *Matuda 3505*.

TRICHACHNE INSULARIS (L.) Nees.—Chiapas: Javalinero, in second growth, swampside, July 6–9, *Matuda 3628*.

CYPERACEAE

(Determined by Hugh O'Neill, Washington)

CALYPTROCARYA GLOMERULATA (Brongn.) Urban.—Chiapas: Javalinero, at edge of river, July 6–9, *Matuda 3610*.

CLADIUM JAMAICENSE Crantz.—Tabasco: La Palma, riverside, June 1–6, *Matuda 3316* (det. Lundell), 2–3 m. high.

CYPERUS ARTICULATUS L.—Tabasco: Estapilla, swampside, June 18, *Matuda 3483*. Campeche: Palizada, in swamp, July 25–28, *Matuda 3868*.

CYPERUS BREVIFOLIUS Rottb.—Tabasco: Boca del Cerro, in swamp, July 1–5, *Matuda 3559*.

CYPERUS DIGITATUS Roxb.—Campeche: Palizada, in swamp, July 25–28, *Matuda 3851*.

CYPERUS EGGERSII Boeckl.—Tabasco: Retiro, riverside, June 19–25, *Matuda 3451*.

CYPERUS GIGANTEUS Vahl.—Tabasco: San Isidro, in swamp, June 7–11, *Matuda 3350*, 2.5 m. high.

CYPERUS HUMILIS Kunth.—Tabasco: Boca del Cerro, in swamp, July 1–5, *Matuda 3574*.

CYPERUS LIGULARIS L.—Tabasco: Retiro, riverside, June 19–25, *Matuda 3452*.

CYPERUS LUZULAE (L.) Retz.—Chiapas: Javalinero, swampside, July 6–9, *Matuda 3629*.

CYPERUS MACROCEPHALUS Liebm.—Campeche: Palizada, in swamp, July 25–28, *Matuda 3869*.

CYPERUS OCHRACEUS Vahl.—Tabasco: Boca del Cerro, in swamp, July 1–5, *Matuda 3578*.

CYPERUS UNIOLIOIDES R. Br.—Chiapas: Palenque, in savanna, July 9–14, *Matuda 3744*.

DICHROMENA COLORATA (L.) Hitchc.—Tabasco: La Palma, riverside, June 1–6, *Matuda 3260*.

ELEOCHARIS CELLULOSA Torr.—Tabasco: La Palma, riverside, June 1–6, *Matuda 3259*.

ELEOCHARIS GENICULATA (L.) R. &. S.—Tabasco: La Palma, riverside, June 1–6, *Matuda 3262*.

FIMBRISTYLIS MONOSTACHYA (L.) Hassk.—Tabasco: Estapilla, June 27, *Matuda 3497*.

FUIRENA SIMPLEX Vahl.—Tabasco: La Palma, riverside, June 1–6, *Matuda 3321, 3322;* San Isidro, in swamp, May 9–14, *Matuda 3360*.

HYPOLYTRUM NICARAGUENSE Liebm.—Tabasco: San Isidro, June 7–11, *Matuda 3337*.

RHYNCHOSPORA CEPHALOTES (L.) Vahl.—Tabasco: Ojo de Agua, southeast of Balancán, in savanna, May 9–14, *Matuda 3120*.

RHYNCHOSPORA CYPEROIDES (Sw.) Mart.—Campeche: Vapor, July 25–28, *Matuda 3911*.

RHYNCHOSPORA FASCICULARIS (Michx.) Vahl.—Tabasco: Achotal, east of Balancán, in savanna, May 9–14, *Matuda 3057;* Ojo de Agua, southeast of Balancán, in savanna, May 9–14, *Matuda 3128*.

RHYNCHOSPORA sp.—Tabasco: Achotal, east of Balancán, in savanna, May 9–14, *Matuda 3052*.

RHYNCHOSPORA sp.—Tabasco: Achotal, east of Balancán, in savanna, May 9–14, *Matuda 3090*.

RHYNCHOSPORA sp.—Tabasco: Ojo de Agua, southeast of Balancán, lakeside, May 9–14, *Matuda 3127*.

RHYNCHOSPORA sp.—Tabasco: Provincia, May 29, *Matuda 3222*.

RHYNCHOSPORA sp.—Tabasco: Boca del Cerro, in swamp, July 1–5, *Matuda 3539*.

SCLERIA BRACTEATA Cav.—Tabasco: Achotal, east of Balancán, in savanna, May 9–14, *Matuda 3092*, vernacular name, *navajuela*.

SCLERIA MELALEUCA Reichenb.—Tabasco: La Palma, in advanced forest, June 1–6, *Matuda 3326*.

SCLERIA MICROCARPA Nees.—Tabasco: Reforma, May 22–26, *Matuda 3228*.

PALMAE

ACOELORRAPHE sp.—Tabasco: Achotal, east of Balancán, in savanna, May 9–14, *Matuda 3070*.

BACTRIS sp.—Tabasco: Reforma, May 22–26, *Matuda 3192*.

BACTRIS sp.—Tabasco: Retiro, in advanced forest, June 19–25, *Matuda 3478*, 2.5 m. high, 1.5–2 cm. in diameter.

BACTRIS sp.—Tabasco: Retiro, in advanced forest, June 19–25, *Matuda 3479*, 2–2.5 m. high.

CHAMAEDOREA sp.—Tabasco: Reforma, in advanced forest, May 22–26, *Matuda 3153*, 1.5 m. high.

CHAMAEDOREA sp.—Tabasco: Reforma, in advanced forest, May 22–26, *Matuda 3232*, 2 m. high.

CHAMAEDOREA sp.—Tabasco: La Palma, in advanced forest, June 1–6, *Matuda 3275*, 80–100 cm. high.

CHAMAEDOREA sp.—Tabasco: Retiro, in advanced forest, June 19–25, *Matuda 3466*.

CHAMAEDOREA sp.—Chiapas: Javalinero, July 6–9, *Matuda 3650*, 1–1.3 m. high.

DESMONCUS sp.—Tabasco: Reforma, May 22–26, *Matuda 3196*.

GEONOMA sp.—Tabasco: Retiro, June 19–25, *Matuda 3443*.

GEONOMA sp.—Tabasco: Retiro, in advanced forest, June 19–25, *Matuda 3477*, 3 m. high, 2–3 cm. in diameter.

ARACEAE

ANTHURIUM MYOSUROIDES (H. B. K.) Endl.—Chiapas: Jalinero, on tree in advanced forest, July 6–9, *Matuda 3644*.

MONSTERA TUBERCULATA Lundell, *Lloydia*, 2: 78. 1939.—Tabasco: La Palma, in advanced forest, June 1–6, *Matuda 3308*, fruits white, edible, vernacular name, *chile montaña;* Estapilla, June 27, *Matuda 3495*. This is the first record for the species outside of British Honduras.

PISTIA STRATIOTES L.—Tabasco, San Isidro, aquatic, June 7–11, *Matuda 3387*.

SPATHIPHYLLUM LACUSTRE Lundell, *Contrib. Univ. Mich. Herb.*, 6: 4. 1941.—Tabasco: Ojo de Agua, southeast of Balancán, lakeside, May 9–14, *Matuda 3136* (type collection).

SYNGONIUM PODOPHYLLUM Schott.—Chiapas: Aguacate, epiphyte, July 16–18, *Matuda 3825*.

XYRIDACEAE

XYRIS AMBIGUA Beyr.—Chiapas: Palenque, in savanna, July 9–14, *Matuda 3728*. No authentic material of the species has been available for comparison, but the specimens from Chiapas agree closely with Malme's description (*North Amer. Fl.*, 19: 8. 1937). This plant, widespread in the southern United States, has been reported from Cuba and British Honduras (*ibid.*).

XYRIS JUPICAI Rich.—Tabasco: Achotal, east of Balancán, in savanna, May 9–14, *Matuda 3109*, corolla yellow.

BROMELIACEAE

AECHMEA KIENASTII E. Morr.—Tabasco: San Isidro, on tree at riverside, June 7–11, *Matuda 3365*.

BILLBERGIA VIRIDIFLORA Wendl.—Tabasco: San Isidro, on tree, June 11, *Matuda 3400*.

CATOPSIS MORRENIANA Mez.—Tabasco: San Isidro, June 11, *Matuda 3394* (det. L. B. Smith).

PITCAIRNIA PUNICEA Scheidw.—Chiapas: Javalinero, epiphyte, July 6–9, *Matuda 3660, 3661.*

TILLANDSIA BRACHYCAULOS Schlecht.—Campeche: Vapor, epiphyte, July 25–28, *Matuda 3882.*

TILLANDSIA BULBOSA Hook.—Tabasco: Reforma, epiphyte, May 22–26, *Matuda 3180.*

TILLANDSIA FESTUCOIDES Brongn.—Tabasco: Reforma, on tree, May 22–26, *Matuda 3144;* San Isidro, June 7–11, *Matuda 3389.*

TILLANDSIA JUNCEA LeC.—Tabasco: Reforma, epiphyte, May 22–26, *Matuda 3183.*

TILLANDSIA POLYSTACHYA L.—Campeche: Vapor, on tree, July 25–28, *Matuda 3880* (det. L. B. Smith).

TILLANDSIA SCHIEDEANA Steud.—Tabasco: Reforma, on tree, May 22–26, *Matuda 3143.*

TILLANDSIA STREPTOPHYLLA Scheidw.—Tabasco: La Palma, on riverside tree, June 1–6, *Matuda 3305.*

TILLANDSIA USNEOIDES L.—Chiapas: Aguacate, on tree, July 16–18, *Matuda 3812.* Campeche: Palizada, on tree at lakeside, July 25–28, *Matuda 3828.*

COMMELINACEAE

COMMELINA ELEGANS H. B. K.—Chiapas: Aguacate, July 16–18, *Matuda 3802*, flowers blue.

PONTEDERIACEAE

PONTEDERIA LANCEOLATA Nutt. (?).—Tabasco: La Palma, edge of lake, June 1–6, *Matuda 3302.* Chiapas: ruins of Palenque, July 10–12, *Matuda 3688.*

ZOSTERELLA LONGITUBA Alexander, *North Amer. Fl.*, 19: 52. 1937.—Campeche: Vapor, in lake, July 25–28, *Matuda 3872*, flowers yellow.

LILIACEAE

DRACAENA AMERICANA Donn. Sm.—Tabasco: Tenosique, in advanced forest, June 14–16, *Matuda 3404*, tree 8–10 m. high, 40 cm. in diameter.

SMILACACEAE

(Verified by C. V. Morton, Washington)

SMILAX ARISTOLOCHIAEFOLIA Mill.—Tabasco: Mercedes, in second growth, May 9–14, *Matuda 3015.*

SMILAX LANCEOLATA L.—Chiapas: ruins of Palenque, at edge of forest, July 10–12, *Matuda 3674.*

SMILAX LUCULENTA Killip & Morton, *Carnegie Inst. Wash. Publ.*, 461: 289. 1936.—Chiapas: ruins of Palenque, in advanced forest, July 10–12, *Matuda 3709.*

SMILAX MOLLIS H. & B.—Tabasco: Achotal, east of Balancán, in advanced forest, May 9–14, *Matuda 3072;* Estapilla, June 18, *Matuda 3487.* Chiapas: Aguacate, July 9–14, *Matuda 3762.*

SMILAX SPINOSA Mill.—Tabasco: Ojo de Agua, southeast of Balancán, in second growth, May 9–14, *Matuda 3135;* Reforma, May 22–26, *Matuda 3159, 3177, 3199;* Boca del Cerro, in advanced forest, July 1–5, *Matuda 3556.*

HAEMODORACEAE

XIPHIDIUM CAERULEUM Aubl.—Chiapas: ruins of Palenque, in advanced forest, July 10–12, *Matuda 3701*, flowers white.

AMARYLLIDACEAE

CURCULIGO SCORZONERIFOLIA (Lam.) Baker.—Chiapas: Aguacate, July 16–18, *Matuda 3794*, perennial herb.

HYMENOCALLIS LITTORALIS (Jacq.) Salisb.—Chiapas: Aguacate, in wet savanna, July 16–18, *Matuda 3797.* Campeche: Vapor, in swamp, July 25–28, *Matuda 3885.*

ZEPHYRANTHES CITRINA Baker (?).—Tabasco: Tenosique, in second growth, June 14–16, *Matuda 3407*, flowers white.

DIOSCOREACEAE

DIOSCOREA BARTLETTII Morton, *Carnegie Inst. Wash. Publ.*, 461: 242. 1936.—Tabasco: La Palma, in second growth, June 1–6, *Matuda 3318.* Chiapas: ruins of Palenque, in advanced forest, July 10–12, *Matuda 3669*, a vine.

DIOSCOREA BERNOULLIANA Prain & Burk.—Chiapas: Aguacate, in savanna, July 16–18, *Matuda 3767.*

IRIDACEAE

CIPURA PALUDOSA Aubl.—Tabasco: Estapilla, in savanna, June 27, *Matuda 3511*, flowers white. Chiapas: Palenque, in savanna, July 9–14, *Matuda 3729*, flowers white.

MARICA GRACILIS Herb.—Tabasco: La Palma, June 1–6, *Matuda 3281*.

NEMASTYLIS BEQUAERTII Standl., *Journ. Arnold Arb.*, 11: 47. 1930.—Chiapas: Aguacate, July 16–18, *Matuda 3815*.

MUSACEAE

(*Determined by L. B. Smith, Cambridge*)

HELICONIA AURANTIACA Ghiesbr.—Tabasco: San Isidro, in advanced forest, June 7–11, *Matuda 3385*.

HELICONIA COLLINSIANA Griggs (?).—Chiapas: Aguacate, in advanced forest, July 16–18, *Matuda 3823*, flowers scarlet.

HELICONIA CRASSA Griggs.—Tabasco: San Isidro, in advanced forest, June 7–11, *Matuda 3385A*. This species probably is not distinct from *H. aurantiaca* Ghiesbr.

HELICONIA HIRSUTA var. CANNOIDEA (L. C. Rich.) Bak.—Chiapas: Javalinero, in advanced forest, July 6–9, *Matuda 3639*, flowers red.

HELICONIA LATISPATHA Benth.—Tabasco: Estapilla, June 27, *Matuda 3494*.

HELICONIA LIBRATA Griggs.—Tabasco: Retiro, in advanced forest, June 19–25, *Matuda 3465*.

HELICONIA SCHIEDEANA Kl. (?).—Tabasco: Boca del Cerro, riverside, July 1–5, *Matuda 3541*.

HELICONIA sp.—Chiapas: ruins of Palenque, in forest, July 10–12, *Matuda 3683*.

ZINGIBERACEAE

COSTUS VILLOSISSIMUS Jacq.—Tabasco: Reforma, May 22–26, *Matuda 3213*.

RENEALMIA AROMATICA (Aubl.) Griseb.—Tabasco: San Isidro, in advanced forest, June 7–11, *Matuda 3386*.

MARANTACEAE

MARANTA ARUNDINACEA L.—Chiapas: Aguacate, July 16–18, *Matuda 3791*.

CALATHEA MACROCHLAMYS Woodson & Standl., *Field Mus. Bot.*, 22: 134. 1940.—Tabasco: Tenosique, in advanced forest, June 14–16, *Matuda 3399* (type collection), flowers yellowish.

CALATHEA MICANS (Math.) Koern.—Tabasco: Retiro, in advanced forest, June 19–25, *Matuda 3418*, flowers white.

PLEIOSTACHYA PRUINOSA (Regel) Schum.—Chiapas: ruins of Palenque, in advanced forest, July 10–12, *Matuda 3680*.

BURMANNIACEAE

BURMANNIA CAPITATA (Walt.) Mart.—Chiapas: Aguacate, in savanna, July 16–18, *Matuda 3778*.

ORCHIDACEAE

(Determined by Charles Schweinfurth, Cambridge)

BRASSAVOLA NODOSA (L.) Lindl.—Campeche: Vapor, on tree, July 25–28, *Matuda 3879*, flowers white.

CATASETUM INTEGERRIMUM Hook.—Campeche: Palizada, on tree, July 25–28, *Matuda 3830*.

EPIDENDRUM ALATUM Batem.—Tabasco: Ojo de Agua, southeast of Balancán, May 9–14, *Matuda 3111*, flowers reddish, fragrant. Campeche: Vapor, on tree, May 25–28, *Matuda 3893*.

EPIDENDRUM COCHLEATUM L.—Tabasco: La Palma, on tree in advanced forest, June 1–6, *Matuda 3303*.

EPIDENDRUM DEAMII Schltr.—Tabasco: Reforma, on tree, May 22–26, *Matuda 3163*. Campeche: Vapor, on tree, July 25–28, *Matuda 3900*.

EPIDENDRUM DIFFORME Jacq.—Tabasco: Reforma, May 22–26, *Matuda 3165*, flowers yellow. Campeche: Vapor, on tree, July 25–28, *Matuda 3878*.

EPIDENDRUM IMATOPHYLLUM Lindl.—Tabasco: Balancán, May 20, *Matuda 3179*.

EPIDENDRUM NOCTURNUM Jacq.—Campeche: Palizada, July 25–28, *Matuda 3826*.

EPIDENDRUM POLYANTHUM Lindl.—Tabasco: San Isidro, lakeside, June 7–11, *Matuda 3349.*

EPIDENDRUM RADIATUM Lindl.—Chiapas: Aguacate, on tree in savanna forest, June 16–18, *Matuda 3824*, flowers fragrant.

EPIDENDRUM RIGIDUM Jacq.—Tabasco: Ojo de Agua, southeast of Balancán, in advanced forest, May 9–14, *Matuda 3114;* La Palma, on riverside tree, June 1–6, *Matuda 3317.*

IONOPSIS UTRICULARIOIDES (Sw.) Lindl.—Tabasco: Retiro, on tree at riverside, June 19–25, *Matuda 3464.* Chiapas: Javalinero, on tree, July 6–9, *Matuda 3646.*

ONCIDIUM LINDENII Brongn.—Tabasco: Reforma, on tree, May 22–26, *Matuda 3230.*

ONCIDIUM PUSILLUM (L.) Rchb. f.—Tabasco: San Isidro, lakeside, June 7–11, *Matuda 3352.*

PLEUROTHALLIS GROBYI Lindl. *P. marginata* Lindl.—Tabasco: Reforma, on tree, May 22–26, *Matuda 3150*, flowers white. Campeche: Vapor, July 25–28, *Matuda 3895.*

SCHOMBURGKIA TIBICINIS Batem.—Tabasco: Balancán, May 18, *Matuda 3145A.*

PIPERACEAE

PEPEROMIA CHICBULANA Trel., *Field Mus. Bot.*, 17: 230. 1937.—Tabasco: San Isidro, June 7–11, *Matuda 3370.*

PEPEROMIA LUNDELLII Trel., *Field Mus. Bot.*, 12: 406. 1936.—Tabasco: Reforma, May 22–26, *Matuda 3164.* This species is very near if not conspecific with *P. glutinosa* Millsp.

PEPEROMIA PETENENSIS Trel., *Field Mus. Bot.*, 17: 230. 1937.—Tabasco: Reforma, epiphyte, May 22–26, *Matuda 3214.*

PEPEROMIA TREMULAEFORMIS Trel., *Field Mus. Bot.*, 9: 276. 1940.—Chiapas: Palenque, on trees in advanced forest along river, July 10–12, *Matuda 3671.*

PIPER ANDRESENSE Trel., *Field Mus. Bot.*, 17: 230. 1937.—Tabasco: Achotal, east of Balancán, in advanced forest, May 9–14, *Matuda 3065.* The collection agrees so closely with the isotype of *P. andresense* from Petén (*Lundell 3203*) that I do not hesitate to refer it to this species.

PIPER AURITUM H. B. K.—Tabasco: La Palma, June 1–6, *Matuda 3234.*

PIPER HISPIDUM Sw.—Tabasco: Retiro, in second growth, June 19–25, *Matuda 3411*.

PIPER MATUDAI Lundell, *Lloydia*, 4: 44. 1941.—Chiapas: along Chacamax River at Palenque, July 10–12, *Matuda 3697* (type collection), spikes white.

PIPER PSILORHACHE C. DC.—Tabasco: La Palma, in forest, June 1–6, *Matuda 3246*, a shrub.

PIPER USUMACINTENSE Lundell, *Lloydia*, 4: 44. 1941.—Tabasco: Boca del Cerro, in advanced forest, July 1–5, *Matuda 3589* (type collection), a shrub.

PIPER YUCATANENSE C. DC.—Tabasco: San Isidro, in advanced forest, June 7–11, *Matuda 3382*, a shrub.

SALICACEAE

SALIX CHILENSIS Molina.—Campeche: Palizada, July 25–28, *Matuda 3855*.

FAGACEAE

QUERCUS OLEOIDES Cham. & Schlecht.—Tabasco: Ojo de Agua, southeast of Balancán, in advanced forest, May 9–14, *Matuda 3129*, a tree, 13 m. high, 60 cm. in diameter. Chiapas: Palenque, in savanna, July 9–14, *Matuda 3732*, a tree, 15 m. high, 55–60 cm. in diameter, vernacular name, *roble*.

ULMACEAE

TREMA FLORIDANA Britton.—Tabasco: Boca del Cerro, in second growth, July 1–5, *Matuda 3575*.

MORACEAE

CECROPIA sp.—Tabasco: La Palma, June 1–6, *Matuda 3240*.

CHLOROPHORA TINCTORIA (L.) Gaud.—Campeche: Palizada, in swampside forest, July 25–28, *Matuda 3850*, a tree, 5–6 m. high. 30 cm. in diameter.

COUSSAPOA OLIGOCEPHALA Donn. Sm.—Tabasco: La Palma, in advanced forest, June 1–6, *Matuda 3300*, a tree, 20 m. high, 45 cm. in diameter.

DORSTENIA CONTRAJERVA L.—Tabasco: La Palma, in advanced forest, June 1–6, *Matuda 3276*.

FICUS INVOLUTA (Liebm.) Miq.—Tabasco: Boca del Cerro, swampside, July 1–5, *Matuda 3552*, a tree, 12 m. high, 50 cm. in diameter.

FICUS OERSTEDIANA Miq.—Chiapas: Palenque, in savanna forest, July 9–14, *Matuda 3724*, a tree, 10 m. high, 50 cm. in diameter; Aguacate, in savanna forest, July 16–18, *Matuda 3805*, a tree, 15 m. high, 60 cm. in diameter.

FICUS PADIFOLIA H. B. K.—Tabasco: Reforma, May 22–26, *Matuda 3176*, a tree.

FICUS RADULA Willd.—Tabasco: Reforma, riverside, May 22–26, *Matuda 3162*, a tree, 10 m. high, 45 cm. in diameter; San Isidro, lakeside, June 7–11, *Matuda 3346*, a tree, 14 m. high, 45 cm. in diameter.

FICUS TUERCKHEIMII Standl.—Tabasco: La Palma, riverside, June 1–6, *Matuda 3250*, a tree, 20 m. high, 60 cm. in diameter.

PIRATINERA TERRABANA (Pittier) Lundell, *Carnegie Inst. Wash. Publ.*, 478: 208. 1937.—Chiapas: Javalinero, in advanced forest, July 6–9, *Matuda 3625*, a tree, 10 m. high, 25 cm. in diameter.

POULSENIA ARMATA (Miq.) Standl.—Chiapas: Javalinero, in advanced forest, July 6–9, *Matuda 3645*, a tree, 15 m. high, 30 cm. in diameter.

URTICACEAE

(Determined by E. P. Killip, Washington)

BOEHMERIA CYLINDRICA (L.) Sw.—Tabasco: San Isidro, in swamp, June 7–11, *Matuda 3357*.

BOEHMERIA RAMIFLORA var. CUSPIDATA Wedd.—Tabasco: Retiro, in second growth, June 19–25, *Matuda 3441*.

PILEA PUBESCENS Liebm.—Tabasco: Retiro, in virgin forest, June 19–25, *Matuda 3462*.

POUZOLZIA OBLIQUA Wedd.—Tabasco: Retiro, in second growth, June 19–25, *Matuda 3475* (det. Lundell).

URERA ELATA (Sw.) Griseb.—Chiapas: ruins of Palenque, in advanced forest, July 10–12, *Matuda 3699*, a small tree, 3 m. high.

LORANTHACEAE

PHORADENDRON CHEIROCARPUM Trel.—Chiapas: Palenque, in savanna forest, July 9–14, *Matuda 3727*.

PHORADENDRON FRANCISCANUM Trel., *Field Mus. Bot.*, 17: 236. 1937.—Campeche: Palizada, on tree, July 25–28, *Matuda 3849*.

PHORADENDRON PIPEROIDES (H. B. K.) Trel.—Chiapas: Palenque, on tree in savanna forest, July 9–14, *Matuda 3721*.

PSITTACANTHUS AMERICANUS (Jacq.) Mart.—Campeche: Vapor, on tree, July 25–28, *Matuda 3898*, flowers red.

STRUTHANTHUS CASSYTHOIDES Millsp., *Field Mus. Bot.*, 8: 7. 1930.—Tabasco: Reforma, May 22–26, *Matuda 3200*.

STRUTHANTHUS MACROSTACHYUS Lundell, *Lloydia*, 4: 45. 1941. —Chiapas: Palenque, in savanna forest, July 9–14, *Matuda 3731* (type collection).

STRUTHANTHUS PHANERONEURUS Standl., *Field Mus. Bot.*, 9: 285. 1940.—Campeche: Palizada, on tree, July 25–28, *Matuda 3856*. The Campeche collection considerably extends the range of this parasite, which was recently described from Honduras. The original description, based evidently on imperfect material, may now be amplified.

Leaves obovate-elliptic or elliptic, up to 6 cm. long, 3.7 cm. wide. Inflorescences axillary, solitary or fasciculate, narrowly paniculate, usually sessile, up to 5 cm. long. Flowers sessile or subsessile, about 4.2 mm. long, in clusters of 3, the clusters borne on peduncles about 1.5 mm. long. Bractlets deciduous. Calyx truncate, obscurely denticulate. Petals 6, linear, 3.4 mm. long. Style straight, 3 mm. long.

OLACACEAE

HEISTERIA MEDIA Blake, *Contrib. U. S. Nat. Herb.*, 24: 3. 1922. *H. Chippiana* Standl., *Field Mus. Bot.*, 11: 130. 1932.—Chiapas: ruins of Palenque, in advanced forest, July 10–12, *Matuda 3690*, a tree, 20 m. high, 40 cm. in diameter.

XIMENIA AMERICANA L.—Tabasco: Achotal, east of Balancán, in savanna, May 9–14, *Matuda 3074, 3075*, a shrub, 2 m. high.

BALANOPHORACEAE

HELOSIS MEXICANA Liebm.—Tabasco: Boca del Cerro, in advanced forest, July 1–5, *Matuda 3558*.

POLYGONACEAE

COCCOLOBA COZUMELENSIS Hemsl.—Tabasco: Reforma, May 22–26, *Matuda 3173*, a tree, 15 m. high, 35 cm. in diameter.

COCCOLOBA MAYANA Lundell, *Bull. Torrey Bot. Club*, 64: 547. 1937.—Chiapas: Javalinero, in advanced forest, July 6–9, *Matuda 3634*, a tree, 12 m. high, 50 cm. in diameter.

GYMNOPODIUM FLORIBUNDUM Rolfe (?).—Tabasco: Reforma, May 22–26, *Matuda 3182*, a small tree.

POLYGONUM MEXICANUM Small.—Tabasco: Boca del Cerro, swampside, July 1–5, *Matuda 3544*.

CHENOPODIACEAE

CHENOPODIUM AMBROSIOIDES L.—Tabasco: La Palma, in second growth, June 1–6, *Matuda 3256*.

AMARANTHACEAE

ACHYRANTHES ASPERA L.—Tabasco: La Palma, in forest, June 1–6, *Matuda 3294*.

IRESINE NIGRA Uline & Bray (?).—Tabasco: Reforma, May 26, *Matuda 3203*.

NYCTAGINACEAE

NEEA BELIZENSIS Lundell, *Contrib. Univ. Mich. Herb.*, 7: 9. 1942.—Tabasco: Achotal, east of Balancán, in advanced forest, May 9–14, *Matuda 3076*, a shrub, 50 cm. high.

PHYTOLACCACEAE

ACHATOCARPUS MEXICANUS H. Walt.—Tabasco: Estapilla, riverside, June 18, *Matuda 3489*, a shrub.

RIVINA HUMILIS L.—Tabasco: Retiro, riverside, June 19–25, *Matuda 3446*. Campeche: Palizada, July 25–28, *Matuda 3852*.

NYMPHAEACEAE

CABOMBA AQUATICA Aubl.—Tabasco: Reforma, May 22–26, *Matuda 3191*. Campeche: Vapor, in lake, July 25–28, *Matuda 3874*.

NELUMBO LUTEA (Willd.) Pers. (?).—Campeche: Palizada, in lake, July 25–28, *Matuda 3833*, flowers white.

NYMPHAEA AMPLA (Salisb.) DC.—Tabasco: Reforma, May 22–26, *Matuda 3190*, flowers white. Campeche: Vapor, in lake, July 25–28, *Matuda 3877*.

MENISPERMACEAE

CISSAMPELOS PAREIRA L.—Tabasco: Achotal, east of Balancán, in second growth, May 9–14, *Matuda 3058*. Chiapas: Aguacate, July 16–18, *Matuda 3809*, a vine.

CISSAMPELOS TROPAEOLIFOLIA DC.—Tabasco: Retiro, in second growth, June 19–25, *Matuda 3457*. Chiapas: ruins of Palenque, in second growth, July 10–12, *Matuda 3686*.

HYPERBAENA NECTANDRIFOLIA Standl.—Tabasco: San Isidro, in advanced forest, June 7–11, *Matuda 3380*, a tree, 10 m. high, 25 cm. in diameter.

ANONACEAE

CYMBOPETALUM PENDULIFLORUM (Dunal) Baill.—Tabasco: La Palma, June 1–6, *Matuda 3237*.

GUATTERIA AMPLIFOLIA Triana & Planch.—Chiapas: ruins of Palenque, in advanced forest, July 10–12, *Matuda 3684, 3685*, a small tree, flowers yellow.

XYLOPIA FRUTESCENS Aubl.—Tabasco: Achotal, east of Balancán, in advanced forest, May 9–14, *Matuda 3094, 3095*, a tree, 13 m. high, 25 cm. in diameter. Chiapas: Javalinero, in advanced forest, July 6–9, *Matuda 3607*, a tree, 15 m. high, 30 cm. in diameter.

MONIMIACEAE

SIPARUNA NICARAGUENSIS Hemsl.—Tabasco: Retiro, in advanced forest, June 19–25, *Matuda 3413;* Boca del Cerro, July 1–5, *Matuda 3553*.

LAURACEAE

CASSYTHA FILIFORMIS L.—Chiapas: Aguacate, in savanna, July 16–18, *Matuda 3780*.

NECTANDRA PERDUBIA Lundell, *Lloydia*, 4:47. 1941.—Tabasco: Boca del Cerro, in second growth, July 1–5, *Matuda 3576* (type collection), a tree, 10 m. high, 25 cm. in diameter.

NECTANDRA SANGUINEA Rottb.—Tabasco: Mercedes, in second growth along river, May 9–14, *Matuda 3027*, a tree, 4–5 m. high,

10–15 cm. in diameter; Tenosique, in advanced forest, June 14–16, *Matuda 3402*, a tree, 7 m. high, 39 cm. in diameter, flowers white. Although the flowers are smaller than those typical for this tree, the species is quite variable, and the collections appear to be referable here.

NECTANDRA TABASCENSIS Lundell, *Lloydia*, 4: 48. 1941.—Tabasco: La Palma, June 1–6, *Matuda 3299* (type collection), a tree.

PHOEBE LONGICAUDATA Lundell, *Bull. Torrey Bot. Club*, 64: 548. 1937.—Chiapas: Javalinero, in advanced forest, July 6–9, *Matuda 3643*, a small tree, 3–4 m. high.

CAPPARIDACEAE

CAPPARIS TUERCKHEIMII Donn. Sm.—Tabasco: Mercedes, in second growth, May 9–14, *Matuda 3099*, a tree, 2–3 m. high, flowers white; Reforma, May 22–26, *Matuda 3185*, a shrub.

CRATAEVA GLAUCA Lundell, *Bull. Torrey Bot. Club*, 69: 389. 1942.—Tabasco: Boca del Cerro, at edge of swamp, July 1–5, *Matuda 3533*, a tree, 5 m. high, 25 cm. in diameter. Campeche: Palizada, swampside, July 25–28, *Matuda 3863* (type collection), a small tree, 7 m. high, 30 cm. in diameter, flowers greenish yellow, vernacular name, *crusita*.

DROSERACEAE

DROSERA CAPILLARIS Poir.—Veracruz: Minatitlán, lakeside, May 1, *Matuda 3023*. Tabasco: La Lucha, south of Balancán, in savanna, May 20, *Matuda 3175*.

ROSACEAE

CHRYSOBALANUS ICACO L.—Tabasco: Ojo de Agua, southeast of Balancán, in savanna, May 9–14, *Matuda 3132*, vernacular name, *cacco*.

COUEPIA DODECANDRA (DC.) Hemsl.—Tabasco: Achotal, east of Balancán, in advanced forest, May 9–14, *Matuda 3102*, a tree, 15–18 m. high, 35 cm. in diameter; Boca del Cerro, riverside, July 1–5, *Matuda 3585*, a tree, 15 m. high, 55 cm. in diameter. Chiapas: Aguacate, in savanna, July 16–18, *Matuda 3798*.

HIRTELLA AMERICANA L.—Tabasco: La Palma, in advanced

forest, June 1–6, *Matuda 3270*, a tree, 20 m. high, 55 cm. in diameter, vernacular name, *icatillo;* San Isidro, in advanced forest, June 7–11, *Matuda 3343*, a tree, 20 m. high, 40 cm. in diameter.

HIRTELLA RACEMOSA Lam.—Tabasco: Achotal, east of Balancán, in second growth, May 9–14, *Matuda 3097*.

LICANIA HYPOLEUCA Benth.—Tabasco: Achotal, east of Balancán, in advanced forest, May 9–14, *Matuda 3054*, a tree, 3–4 m. high; Ojo de Agua, southeast of Balancán, in advanced forest, May 9–14, *Matuda 3110*, a tree, 7–8 m. high, 25 cm. in diameter; Ojo de Agua, *Matuda 3142*, a tree, 10 m. high, 35–40 cm. in diameter; Boca del Cerro, in advanced forest, July 1–5, *Matuda 3565*, a tree, 15 m. high, 40 cm. in diameter.

CONNARACEAE

ROUREA GLABRA H. B. K.—Tabasco: Mercedes, lakeside, May 9–14, *Matuda 3004*, a woody vine, flowers white.

LEGUMINOSAE

I. MIMOSEAE

ACACIA FARNESIANA (L.) Willd.—Tabasco: Boca del Cerro, in second growth, July 1–5, *Matuda 3587, 3588*, a shrub.

ACACIA MAYANA Lundell, *Carnegie Inst. Wash. Publ.*, 478: 210. 1937.—Tabasco: Retiro, in advanced forest, June 19–25, *Matuda 3410*, a shrub, 3 m. high. This exceptionally well-marked species has been known only from the type collection made in southern Petén by Mercedes Aguilar H.

ACACIA USUMACINTENSIS Lundell, *Contrib. Univ. Mich. Herb.*, 4: 8. 1940.—Tabasco: La Palma, in advanced forest, June 1–6, *Matuda 3323, 3324*, a tree, 15 m. high, 45 cm. in diameter; Boca del Cerro, July 1–5, *Matuda 3550* (type collection), a tree, 14 m. high, 40 cm. in diameter.

ALBIZZIA TOMENTOSA (Micheli) Standl.—Tabasco: La Palma, at edge of forest, June 1–6, *Matuda 3267* (det. Morton), a tree, 13 m. high, 55 cm. in diameter.

CALLIANDRA DEAMII (B. & R.) Standl.—Tabasco: Reforma, May 22–26, *Matuda 3202*, a shrub, flowers red; San Isidro, in advanced forest, June 7–11, *Matuda 3340*, a tree, 3 m. high, 9 cm. in diameter. *C. Deamii* and *C. yucatanensis* are quite variable,

especially in pubescence. When additional collections become available, a further division of the complexes may be desirable.

CALLIANDRA YUCATANENSIS (B. & R.) Standl.—Campeche: Palizada, July 25–28, *Matuda 3871*, a shrub, flowers red.

INGA EDULIS Mart.—Tabasco: Achotal, east of Balancán, May 9–14, *Matuda 3038*, a tree, 3–4 m. high, 30 cm. in diameter.

INGA LEPTOLOBA Schlecht.—Tabasco: Boca del Cerro, swampside, July 1–5, *Matuda 3548*, a tree, 10 m. high, 40 cm. in diameter.

INGA PINETORUM Pittier.—Tabasco: Achotal, east of Balancán, in savanna, May 9–14, *Matuda 3098*, a shrub, 1.5 m. high.

INGA PUNCTATA Willd.—Tabasco: Reforma, May 22–26, *Matuda 3220*, a tree.

LYSILOMA DESMOSTACHYS Benth.—Tabasco: Estapilla, edge of savanna, June 27, *Matuda 3520*, a tree, 10 m. high, 45 cm. in diameter.

MIMOSA SOMNIANS Humb. & Bonpl.—Chiapas: Palenque, in savanna, July 9–14, *Matuda 3734*.

NEPTUNIA PUBESCENS Benth.—Chiapas: Aguacate, July 16–18, *Matuda 3810*, flowers yellow.

PITHECOLOBIUM ALBICANS (Kunth) Benth. *Albizzia rubiginosa* Standl., *Carnegie Inst. Wash. Publ.*, 461: 58. 1935, not Miquel, 1855. *Albizzia Lundellii* Standl., *Trop. Woods*, 52: 26. 1937.—Chiapas: Aguacate, in savanna, July 16–18, *Matuda 3801*, a tree, 10 m. high. Campeche: Vapor, July 25–28, *Matuda 3912*, a tree, 7 m. high, 30 cm. in diameter, flowers white.

PITHECOLOBIUM ARBOREUM (L.) Urban.—Tabasco: La Palma, in advanced forest, June 1–6, *Matuda 3290*, a tree, 10 m. high, 40 cm. in diameter.

PITHECOLOBIUM BELIZENSE Standl., *Field Mus. Bot.*, 4: 212. 1929.—Tabasco: Tenosique, riverside, June 14–16, *Matuda 3409*, a tree, 7 m. high, 40 cm. in diameter.

PITHECOLOBIUM CAMPECHENSE Lundell, *Phytologia*, 1: 481. 1941.—Campeche: Palizada, in swampside forest, July 25–28, *Matuda 3866* (type collection), a tree, 7–10 m. high, 30–60 cm. in diameter, vernacular name, *tinta*.

PITHECOLOBIUM DISCIFERUM Lundell, *Contrib. Univ. Mich. Herb.*, 6: 27. 1941.—Tabasco: Reforma, riverside, May 22–26, *Matuda 3211*, a tree, 10 m. high, 30 cm. in diameter; Retiro, on

limestone rock at riverside, June 19–25, *Matuda 3468*, a shrub. Campeche: Vapor, July 25–28, *Matuda 3908* (type collection), a tree, 10–15 m. high, 30–40 cm. in diameter.

PITHECOLOBIUM ENGLESINGII (Standl.) Standl., *Trop. Woods*, 34: 40. 1933. *Inga Englesingii* Standl., *Trop. Woods*, 17: 27. 1929; *Field Mus. Bot.*, 4: 211. 1929.—Chiapas: ruins of Palenque, in advanced forest, July 10–12, *Matuda 3665*, a tree, 15 m. high, 35–40 cm. in diameter.

PITHECOLOBIUM GENTLEI Lundell, *Contrib. Univ. Mich. Herb.*, 6: 28. 1941.—Chiapas: Javalinero, in the Chacamax River, July 6–9, *Matuda 3620*, a shrub, 2 m. high, flowers white; ruins of Palenque, riverside, in forest, July 10–12, *Matuda 3693*, a shrub.

PITHECOLOBIUM LEUCOCALYX (B. & R.) Standl., *Field Mus. Bot.*, 4: 308. 1929. *Samanea leucocalyx* B. & R., *N. Amer. Fl.*, 23: 34. 1928.—Tabasco: Estapilla, riverside, June 18, *Matuda 3486*, a tree, 15 m. high, 60 cm. in diameter.

PITHECOLOBIUM PACHYPUS Pittier.—Campeche: Palizada, swampside, July 25–29, *Matuda 3837, 3845*, a shrub or tree, up to 10 m. high, 60 cm. in diameter, vernacular name, *tokin*.

II. CAESALPINIEAE

BAUHINIA DIVARICATA L.—Tabasco: Tenosique, in second growth, June 14–16, *Matuda 3397*, flowers white.

BAUHINIA PALENQUENSIS Lundell, *Contrib. Univ. Mich. Herb.*, 6: 24. 1941.—Chiapas: ruins of Palenque, in advanced forest, July 10–12, *Matuda 3666* (type collection), a small tree, 3 m. high, flowers red.

CASSIA BACILLARIS L.—Tabasco: Boca del Cerro, in second growth, July 1–5, *Matuda 3593*.

CASSIA DIPHYLLA L.—Tabasco: Achotal, east of Balancán, in savanna, May 9–14, *Matuda 3051*, flowers yellow; Ojo de Agua, southeast of Balancán, in savanna, May 9–14, *Matuda 3122*. Chiapas: Aguacate, July 16–18, *Matuda 3793*.

CASSIA FLEXUOSA L.—Tabasco: Achotal, east of Balancán, in savanna, May 9–14, *Matuda 3063*.

CASSIA GRANDIS L.—Tabasco: Boca del Cerro, swampside, July 1–5, *Matuda 3536*, a tree, 15 m. high, 50 cm. in diameter.

CASSIA HISPIDULA Vahl.—Tabasco: Achotal, east of Balancán,

in savanna, May 9–14, *Matuda 3045;* Estapilla, June 27, *Matuda 3521.*

Cassia Killipii Rose.—Chiapas: Aguacate, July 16–18, *Matuda 3788.*

Cassia Tagera L.—Chiapas: Palenque, in savanna, July 9–14, *Matuda 3740, 3751.*

Cassia undulata Benth.—Tabasco: Achotal, east of Balancán, in second growth, May 9–14, *Matuda 3035.*

Cynometra colimensis Britt. & Rose.—Chiapas: Aguacate, swampside, July 16–18, *Matuda 3796* (det. Morton), a tree, 15 m. high, 35 cm. in diameter.

Dialium guianense (Aubl.) Sandwith.—Tabasco: La Palma, in advanced forest, June 1–6, *Matuda 3243*, a tree, 15 m. high, 45 cm. in diameter.

Swartzia Lundellii Standl., *Carnegie Inst. Wash. Publ.*, 461: 61. 1935.—Tabasco: Boca del Cerro, on limestone, July 1–5, *Matuda 3586*, a tree, 12 m. high, 35 cm. in diameter.

III. Papilionatae

Andira Galeottiana Standl., *Contrib. U. S. Nat. Herb.*, 20: 217. 1919.—Tabasco: Ojo de Agua, southeast of Balancán, in advanced forest, May 9–14, *Matuda 3125*, a tree, 10 m. high, 55–60 cm. in diameter.

Andira inermis (Sw.) H. B. K.—Tabasco: Boca del Cerro, July 1–5, *Matuda 3569*, a tree, 15 m. high, 39 cm. in diameter.

Centrosema unifoliatum (Rose) Lundell, *Bull. Torrey Bot. Club*, 69: 391. 1942.—Tabasco: Estapilla, in savanna, June 27, *Matuda 3498*, a vine, corolla blue.

Clitoria rubiginosa Juss.—Chiapas: Aguacate, July 16–18, *Matuda 3786*, a perennial herb, corolla white.

Crotalaria retusa L.—Campeche: Palizada, July 25–28, *Matuda 3834.*

Crotalaria sagittalis L. (?).—Tabasco: Estapilla, in savanna, June 27, *Matuda 3527*, a perennial herb, corolla yellow.

Dalbergia Brownei (Jacq.) Urban.—Campeche: Palizada, swampside, July 25–28, *Matuda 3870*, a woody vine, vernacular name, *balbasco.*

DALBERGIA GLABRA (Mill.) Standl.—Tabasco: Reforma, May 22–26, *Matuda 3195*, a woody vine, corolla white; Retiro, riverside on limestone, June 19–25, *Matuda 3444*. Campeche: Palizada, July 25–28, *Matuda 3865*, a shrub, corolla white.

DALBERGIA PAUCIFOLIOLATA Lundell, *Contrib. Univ. Mich. Herb.*, 4: 8. 1940.—Tabasco: Reforma, riverside, May 22–26, *Matuda 3167* (type collection), a small tree, corolla white.

DESMODIUM BARBATUM (L.) Benth. & Oerst.—Tabasco: Achotal, east of Balancán, in savanna, May 9–14, *Matuda 3091*. Chiapas: Palenque, in savanna, July 9–14, *Matuda 3746*.

DESMODIUM FRUTESCENS (Jacq.) Schindl. (?).—Tabasco: Reforma, May 22–26, *Matuda 3221*, a perennial herb. Chiapas: Palenque, in savanna, July 9–14, *Matuda 3754*.

DREPANOCARPUS LUNATUS (L.f.) Meyer.—Tabasco: Boca del Cerro, swampside, July 1–5, *Matuda 3545, 3546*, a woody vine, 20 cm. in diameter.

ERIOSEMA DIFFUSUM (H. B. K.) Don.—Tabasco: Achotal, east of Balancán, in savanna, May 9–14, *Matuda 3043;* Estapilla, in savanna, June 27, *Matuda 3526*, corolla yellow. Chiapas: Aguacate, July 16–18, *Matuda 3768, 3817*, a perennial herb.

GALACTIA STRIATA (Jacq.) Urb.—Chiapas: Aguacate, July 16–18, *Matuda 3783*, a vine.

INDIGOFERA LESPEDEZIOIDES H. B. K.—Tabasco: Estapilla, in savanna, June 27, *Matuda 3499*, corolla salmon.

INDIGOFERA SUFFRUTICOSA Mill.—Tabasco: Estapilla, riverside, June 18, *Matuda 3488*. Campeche: Palizada, July 25–28, *Matuda 3862*.

LONCHOCARPUS CASTILLOI Standl., *Trop. Woods*, 32: 15. 1932.—Tabasco: Reforma, May 22–26, *Matuda 3217*, a tree, 15 m. high, 35 cm. in diameter.

LONCHOCARPUS HONDURENSIS Benth.—Tabasco: La Palma, riverside, June 1–6, *Matuda 3249*, a tree, 15 m. high, 45 cm. in diameter.

LONCHOCARPUS LATIFOLIUS (Willd.) H. B. K.—Tabasco: Reforma, May 22–26, *Matuda 3186*, a tree, 13 m. high, 40 cm. in diameter; Estapilla, riverside, June 18, *Matuda 3482*, a tree, 15 m. high, 40 cm. in diameter. Campeche: Palizada, July 25–28,

Matuda 3836, a tree, 7–10 m. high, 30–50 cm. in diameter.

Machaerium setulosum Pittier (?).—Campeche: Palizada, in swamp, July 25–28, *Matuda 3841*, a woody vine.

Phaseolus gracilis Poepp. (?).—Tabasco: Estapilla, in savanna, June 25, *Matuda 3516*. Chiapas: Palenque, in savanna, July 9–14, *Matuda 3761*, a vine, corolla salmon; Aguacate, July 16–18, *Matuda 3775*, corolla salmon.

Piscidia piscipula (L.) Sarg.—Tabasco: Mercedes, in second growth, May 9–14, *Matuda 3012*, a tree, 8–10 m. high, 35 cm. in diameter.

Rhynchosia minima (L.) DC.—Campeche: Palizada, July 25–28, *Matuda 3838*, a vine.

Stylosanthes guyanensis (Aubl.) Swartz.—Tabasco: Achotal, east of Balancán, in savanna, May 9–14, *Matuda 3041, 3047*, corolla yellow. Chiapas: Palenque, in savanna, July 9–14, *Matuda 3735*. More than one species may be represented.

Tephrosia littoralis (L.) Pers. (?).—Tabasco: Estapilla, in savanna, June 27, *Matuda 3517*.

Tephrosia nitens Benth.—Chiapas: Palenque, in savanna, July 9–14, *Matuda 3758*.

Vigna repens (L.) Kuntze.—Tabasco: La Palma, June 1–6, *Matuda 3261*, a vine.

Vigna vexillata (L.) A. Rich. (?).—Tabasco: Boca del Cerro, swampside, July 1–5, *Matuda 3594*.

Zornia diphylla (L.) Pers.—Chiapas: Aguacate, July 16–18, *Matuda 3821*.

OXALIDACEAE

Oxalis Neaei DC.—Chiapas: Aguacate, July 16–18, *Matuda 3819*.

Oxalis yucatanensis (Rose) R. Knuth, *Notizbl. Bot. Gart. Berlin*, 7: 291. 1919. *Lotoxalis yucatanensis* Rose, *Contrib. U. S. Nat. Herb.*, 10: 116. 1906. *Oxalis yucatanensis* (Rose) Standl., *Contrib. U. S. Nat. Herb.*, 23: 518. 1923.—Chiapas: Aguacate, July 16–18, *Matuda 3820*.

ERYTHROXYLACEAE

Erythroxylon spp.—Tabasco: San Isidro, swampside, June 7–11, *Matuda 3383*, a small tree, 3 m. high; Boca del Cerro.

swampside, July 1–5, *Matuda 3549*, a small tree, 4 m. high. Chiapas: ruins of Palenque, in advanced forest along river, July 10–12, *Matuda 3706*, a small tree, 5 m. high. Campeche: Vapor, swampside, July 25–28, *Matuda 3894*, a shrub, 4 m. high. At least two species belonging to the complex of *E. areolatum* L. are represented.

RUTACEAE

ZANTHOXYLUM CARIBAEUM Lam. (?).—Tabasco: Mercedes, in second growth, May 9–14, *Matuda 3007*, a small tree.

ZANTHOXYLUM NIGRIPUNCTATUM Lundell, *Bull. Torrey Bot. Club*, 64: 551. 1937.—Chiapas: ruins of Palenque, in advanced forest, July 10–12, *Matuda 3708*, a tree, 8 m. high, 30 cm. in diameter.

SIMARUBACEAE

PICRAMNIA ANTIDESMA SW.—Tabasco: Boca del Cerro, in advanced forest, July 1–5, *Matuda 3573*, a small tree, 7–8 m. high.

SIMARUBA GLAUCA DC.—Tabasco: Ojo de Agua, southeast of Balancán, May 9–14, *Matuda 3116*.

BURSERACEAE

BURSERA SIMARUBA (L.) Sarg.—Tabasco: Reforma, May 22–26, *Matuda 3204*, vernacular name, *palo retinto*.

PROTIUM COPAL (Schl. & Cham.) Engler.—Tabasco: Retiro, in advanced forest, June 19–25, *Matuda 3414*, a tree, 20 m. high, 40 cm. in diameter. Chiapas: ruins of Palenque, in advanced forest, July 10–12, *Matuda 3698*, a tree, 8 m. high, 35 cm. in diameter.

MELIACEAE

CEDRELA MEXICANA M. Roem.—Tabasco: Estapilla, riverside, June 18, *Matuda 3492*, a tree, 20 m. high, 70 cm. in diameter, vernacular name, *cedro*.

GUAREA EXCELSA H. B. K.—Tabasco: Achotal, east of Balancán, in advanced forest, May 9–14, *Matuda 3085*, a tree, 4 m. high, fruits red; La Palma, in advanced forest, June 1–6, *Matuda 3269*, a tree, 15 m. high, 45 cm. in diameter, fruits red.

GUAREA sp.—Tabasco: Retiro, in advanced forest, June 19–25, *Matuda 3458*, a tree, 15 m. high, 60 cm. in diameter. The speci-

mens, in fruit, are not barbate in the leaf axils beneath; the leaves are scarcely to be distinguished otherwise from those of *G. excelsa* H. B. K.

TRICHILIA CUNEATA Radlk.—Tabasco: Reforma, May 22–26, *Matuda 3155*, a tree, 3 m. high; Provincia, May 29, *Matuda 3225*.

TRICHILIA HAVANENSIS Jacq.—Tabasco: Reforma, in second growth, May 22–26, *Matuda 3229*, a tree, 3 m. high.

TRICHILIA HIRTA L.—Tabasco: Estapilla, riverside, June 18, *Matuda 3485*, a tree, 12 m. high, 27–30 cm. in diameter.

TRICHILIA MONTANA H. B. K.—Tabasco: Boca del Cerro, in advanced forest, July 1–5, *Matuda 3570*, a tree, 3–4 m. high.

TRICHILIA YUCATANENSIS Lundell, *Bull. Torrey Bot. Club*, 69: 392. 1942. Tabasco: Reforma, May 22–26, *Matuda 3154*, a tree, 3 m. high; Provincia, May 27, *Matuda 3219*; La Palma, in advanced forest, June 1–6, *Matuda 3263*, a tree.

MALPIGHIACEAE

BANISTERIA LAURIFOLIA L.—Tabasco: Achotal, east of Balancán, in second growth, May 9–14, *Matuda 3029, 3030*, a woody vine, corolla yellow; Retiro, in second growth, June 19–25, *Matuda 3460*, a woody vine; Estapilla, at edge of savanna, June 27, *Matuda 3507*, a woody vine.

BUNCHOSIA LANCEOLATA Turcz. (?).—Chiapas: Javalinero, in advanced forest, July 6–9, *Matuda 3617*, a small tree.

BUNCHOSIA SWARTZIANA Griseb.—Tabasco: Reforma, May 22–26, *Matuda 3157*, a small tree, 3 m. high, 15 cm. in diameter.

MALPIGHIA LUNDELLII Morton, *Carnegie Inst. Wash. Publ.*, 461: 138. 1936.—Tabasco: Reforma, May 22–26, *Matuda 3181*, a small tree, 6–7 m. high, 15 cm. in diameter, corolla reddish.

MASCAGNIA DIPHOLIPHYLLA (Small) Bullock, *Kew Bull.*, p. 300. 1937. *Hiraea dipholiphylla* Small, *N. Amer. Fl.*, 25: 122. 1910. *Mascagnia polycarpa* Brandeg., *Univ. Calif. Publ. Bot.*, 10: 409. 1924.—Chiapas: Javalinero, in advanced forest, July 6–9, *Matuda 3635*, a woody vine.

STIGMAPHYLLON LINDENIANUM A. Juss.—Tabasco: Mercedes, in second growth, May 9–14, *Matuda 3022*, corolla yellow.

TETRAPTERIS SELERIANA Ndzu.—Tabasco: Achotal, east of

Balancán, in advanced forest, May 9–14, *Matuda 3099*, a woody vine.

VOCHYSIACEAE

VOCHYSIA HONDURENSIS Sprague.—Tabasco: Achotal, east of Balancán, in advanced forest, May 9–14, *Matuda 3077*, a tree, 15 m. high, 40 cm. in diameter.

POLYGALACEAE

POLYGALA CONSOBRINA Blake.—Tabasco: Estapilla, in savanna, June 27, *Matuda 3513*, corolla blue.

POLYGALA HYGROPHILA H. B. K.—Chiapas: Palenque, in savanna, July 9–14, *Matuda 3756*.

POLYGALA LONGICAULIS H. B. K.—Chiapas: Palenque, in savanna, July 9–14, *Matuda 3748*.

POLYGALA PANICULATA L.—Tabasco: Retiro, riverside, June 19–25, *Matuda 3427*.

SECURIDACA DIVERSIFOLIA (L.) Blake.—Tabasco: Achotal, east of Balancán, in second growth, May 9–14, *Matuda 3060*.

EUPHORBIACEAE

ACALYPHA SETOSA A. Rich.—Tabasco: Retiro, in second growth, June 19–25, *Matuda 3459*.

ACALYPHA TABASCENSIS Lundell, *Lloydia*, 4: 51. 1941.—Tabasco: Retiro, June 19–25, *Matuda 3417* (type collection).

ACALYPHA VILLOSA Jacq.—Tabasco: Retiro, in second growth, June 19–25, *Matuda 3424*.

CAPERONIA PALUSTRIS (L.) St. Hil.—Tabasco: San Isidro, lakeside, June 7–11, *Matuda 3348*, flowers white; Boca del Cerro, swampside, July 1–5, *Matuda 3542*.

CROTON FLAVOGLANDULOSUS Lundell, *Phytologia*, 1: 403. 1940.—Tabasco: Achotal, east of Balancán, in savanna, May 9–14, *Matuda 3042* (type collection), flowers white.

CROTON GLABELLUS L.—Tabasco: Retiro, in advanced forest, June 19–25, *Matuda 3420*, a tree, 5 m. high, 25 cm. in diameter.

CROTON PEROBTUSUS Lundell, *Phytologia*, 1: 405. 1940.—Tabasco: Reforma, May 22–26, *Matuda 3160*, a small tree, 2.5 m. high, 15 cm. in diameter; La Palma, in advanced forest, June

1–6, *Matuda 3327* (type collection), a tree, 18 m. high, 40 cm. in diameter.

CROTON REPENS Schlecht.—Chiapas: Palenque, in savanna, July 9–14, *Matuda 3747*, a perennial herb.

CROTON TABASCENSIS Lundell, *Phytologia*, 1: 408. 1940.—Tabasco: Reforma, May 22–26, *Matuda 3145* (type collection), a tree, 7 m. high, 25 cm. in diameter.

DALECHAMPIA SCANDENS L.—Tabasco: Achotal, east of Balancán, in second growth, May 9–14, *Matuda 3064*, a vine.

EUPHORBIA HETEROPHYLLA L.—Tabasco: Estapilla, in savanna, June 27, *Matuda 3500*.

EUPHORBIA MARGINATA Pursh.—Campeche: Palizada, swampside, July 25–28, *Matuda 3860* (det. Wheeler).

GARCIA NUTANS Rohr.—Tabasco: Boca del Cerro, riverside, July 1–5, *Matuda 3568*, a tree, 10 m. high, 35 cm. in diameter.

HURA POLYANDRA Baill.—Tabasco: Estapilla, riverside, June 18, *Matuda 3480*, a tree, 3 m. high, 15 cm. in diameter, flowers white.

JULOCROTON ARGENTEUS Didr.—Tabasco: Boca del Cerro, swampside, July 1–5, *Matuda 3543*. Campeche: Palizada, swampside, July 25–28, *Matuda 3846*.

MABEA OCCIDENTALIS Benth.—Tabasco: Achotal, east of Balancán, May 9–14, *Matuda 3103*, a tree, 4–5 m. high, 15–20 cm. in diameter.

PERA BARBELLATA Standl.—Tabasco: Ojo de Agua, southeast of Balancán, in advanced forest, May 9–14, *Matuda 3134*, a tree, 7 m. high, 35 cm. in diameter.

PHYLLANTHUS ANTILLANUS var. HYPOMALACUS (Standl.) Lundell, *Phytologia*, 1: 337. 1940. *Phyllanthus nobilis* var. *hypomalacus* Standl., *Carnegie Inst. Wash. Publ.*, 461: 68. 1935.—Tabasco: Achotal, east of Balancán, in advanced forest, May 9–14, *Matuda 3096*. Campeche: Vapor, swampside, July 25–28, *Matuda 3887*, a tree, 6 m. high, 35 cm. in diameter.

PHYLLANTHUS COMPRESSUS H. B. K.—Tabasco: Retiro, riverside, June 19–25, *Matuda 3471* (det. Wheeler).

PHYLLANTHUS DIFFUSUS Klotzsch.—Tabasco: Achotal, east of Balancán, in savanna, May 9–14, *Matuda 3086* (det. Wheeler).

FIG. 1. *Sebastiania confusa* Lundell. *Matuda 3172*, half natural size.

PHYLLANTHUS LATHYROIDES H. B. K.—Tabasco: Retiro, riverside, June 19–25, *Matuda 3471A* (det. Wheeler).

PLUKENETIA ANGUSTIFOLIA Standl.—Tabasco: La Palma, in advanced forest, June 1–6, *Matuda 3288*, a woody vine.

SEBASTIANIA CONFUSA Lundell, *Lloydia*, 2: 99. 1939 (Fig. 1).—Tabasco: Reforma, in advanced forest, May 22–26, *Matuda 3149*, a tree, 7 m. high, 15–20 cm. in diameter, vernacular name, *chitzen;* Reforma, *Matuda 3172*, a small tree, 3 m. high.

SEBASTIANIA STANDLEYANA Lundell, *Lloydia*, 2: 97. 1939. *Sebastiania longicuspis* Standl., *Field Mus. Bot.*, 11: 134. 1932, *nomen confusum*.—Tabasco: Retiro, in advanced forest, June 19–25, *Matuda 3476*, a tree, 15 m. high, 25 cm. in diameter.

AQUIFOLIACEAE

ILEX PANAMENSIS Standl.—Tabasco: Ojo de Agua, southeast of Balancán, in advanced forest, May 9–14, *Matuda 3126*, a tree, 5–6 m. high, 30 cm. in diameter.

CELASTRACEAE

MAYTENUS PURPUSII Lundell, *Amer. Midl. Nat.*, 20: 238. 1938.—Tabasco: Reforma, at edge of forest, May 22–26, *Matuda 3147*, a shrub. The collection has staminate flowers, and it appears to be referable here.

MAYTENUS SCHIPPII Lundell, *Phytologia*, 1: 305. 1939.—Tabasco: Ojo de Agua, southeast of Balancán, in advanced forest, May 9–14, *Matuda 3140*, a tree, 7–10 m. high, 35 cm. in diameter; Estapilla, in second growth, June 18, *Matuda 3490*, a small tree, 3 m. high. Chiapas: Aguacate, in savanna forest, July 16–18, *Matuda 3766*, a small tree, 2.5 m. high.

MYGINDA FILIPES (Sprague) Loes., *Notizbl. Bot. Gart.*, 13: 226. 1936. *Microtropis filipes* Sprague, *Kew Bull.*, p. 363. 1909.—Tabasco: Mercedes, in second growth, May 9–14, *Matuda 3013*, a shrub, 30–50 cm. high; San Isidro, in advanced forest, June 7–11, *Matuda 3375*, a small tree, 2 m. high.

MYGINDA PUBERULA (Lundell) Lundell, *Bull. Torrey Bot. Club*, 64: 553. 1937. *Rhacoma riparia* var. *puberula* Lundell, *Carnegie Inst. Wash. Publ.*, 478: 213. 1937.—Tabasco: Retiro, riverside on

limestone, June 19–25, *Matuda 3429*. The species is very close to *M. filipes*, and additional collections may show that it is conspecific.

RHACOMA MACROCARPA (Brandeg.) Standl., *Contrib. U. S. Nat. Herb.*, 23: 681. 1923. *Myginda macrocarpa* Brandeg., *Univ. Calif. Publ. Bot.*, 6: 56. 1914.—Chiapas: ruins of Palenque, in advanced forest, July 10–12, *Matuda 3689*, a tree, 10 m. high, 30 cm. in diameter.

WIMMERIA BARTLETTII Lundell, *Bull. Torrey Bot. Club*, 65: 467. 1938.—Tabasco: La Palma, in advanced forest, June 1–6, *Matuda 3287*, a tree, 20 m. high, 50 cm. in diameter.

HIPPOCRATEACEAE

CUERVEA MITCHELLAE (Johnston) A. C. Smith, *Brittonia*, 3: 401. 1940. *Hippocratea Mitchellae* Johnston, *Contrib. Gray Herb.*, 81: 93. 1928.—Tabasco: Boca del Cerro, July 1–5, *Matuda 3571*. This fruiting collection was distributed by the writer as a new species, but flowering material is needed to determine definitely whether or not it is distinct.

PRISTIMERA CELASTROIDES (H. B. K.) A. C. Smith, *Brittonia*, 3:371. 1940. *Hippocratea tabascensis* Lundell, *Contrib. Univ. Mich. Herb.*, 4: 16. 1940.—Tabasco: Estapilla, June 18, *Matuda 3484* (type collection of *H. tabascensis*), a woody vine. The recent treatment of the American species of Hippocrateaceae by A. C. Smith (*Brittonia*, 3: 341–555. 1940) is conservative, and various species which he reduces to synonymy doubtless will be revived when additional material becomes available.

HIPPOCRATEA VOLUBILIS L.—Tabasco: Achotal, east of Balancán, in advanced forest, May 9–14, *Matuda 3079*, a woody vine.

SAPINDACEAE

CUPANIA AURICULATA Standl., *Field Mus. Bot.*, 8: 20. 1930.—Chiapas: Javalinero, in advanced forest, July 6–9, *Matuda 3656*, a tree, 5 m. high.

MATAYBA RETUSA Lundell, *Lloydia*, 4: 52. 1941.—Tabasco: Tenosique, in second growth, June 14–16, *Matuda 3403* (type collection), a small tree.

SERJANIA PTERARTHRA Standl., *Carnegie Inst. Wash. Publ.*, 461: 70. 1935.—Tabasco: Mercedes, in second growth, May 9–14, *Matuda 3017*, a woody vine.

TALISIA FLORESII Standl., *Trop. Woods*, 26: 14. 1931.—Tabasco: Reforma, May 22–26, *Matuda 3193*, a tree, 15 m. high, 30 cm. in diameter.

THOUINIDIUM MATUDAI Lundell, *Lloydia*, 4: 53. 1941.—Tabasco: Boca del Cerro, on limestone, July 1–5, *Matuda 3590* (type collection), a tree, 7 m. high, 20 cm. in diameter.

RHAMNACEAE

SAGERETIA ELEGANS (H. B. K.) Brongn.—Tabasco: Estapilla, in second growth, June 18, *Matuda 3491*, a woody vine.

VITACEAE

AMPELOCISSUS ERDWENDBERGII Planch.—Tabasco: Reforma, May 22–26, *Matuda 3201*, a woody vine.

CISSUS GOSSYPIIFOLIA Standl., *Field Mus. Bot.*, 8: 23. 1930.—Tabasco: La Palma, in advanced forest, June 1–6, *Matuda 3314*, flowers red.

CISSUS RHOMBIFOLIA Vahl (?).—Chiapas: Javalinero, in advanced forest, June 6–9, *Matuda 3614*, flowers red.

VITIS CARIBAEA DC.—Tabasco: La Palma, in second growth, June 1–6, *Matuda 3306*.

TILIACEAE

CARPODIPTERA AMELIAE Lundell, *Field and Lab.*, 6: 13. 1937.—Tabasco: Boca del Cerro, on limestone, July 5, *Matuda 3626*, a tree, 15 m. high, 35 cm. in diameter, leaves purplish, flowers violet.

MUNTINGIA CALABURA L.—Tabasco: Provincia, May 27, *Matuda 3223*, a tree.

MALVACEAE

ABUTILON HIRTUM (Lam.) Sweet.—Tabasco: La Palma, riverside, June 1–6, *Matuda 3280*, flowers yellow, vernacular name, *malva*.

HIBISCUS COSTATUS A. Rich.—Chiapas: Palenque, in savanna, July 9–14, *Matuda 3753*.

HIBISCUS FURCELLATUS Lam.—Tabasco: Achotal, east of Balancán, in savanna, May 9–14, *Matuda 3048*, corolla reddish.

HIBISCUS SORORIUS L.f.—Tabasco: San Isidro, in swamp, June 7–11, *Matuda 3367*.

HIBISCUS sp.—Chiapas: Palenque, in savanna, July 9–14, *Matuda 3753A*.

HIBISCUS sp.—Chiapas: Palenque, in savanna, July 9–14, *Matuda 3753B*.

MALACHRA CAPITATA L.—Tabasco: Mercedes, lakeside, May 9–14, *Matuda 3010* (det. Wiggins), corolla yellow.

SIDA LINIFOLIA Juss.—Chiapas: Aguacate, July 16–18, *Matuda 3777*.

STERCULIACEAE

HELICTERES GUAZUMAEFOLIA H. B. K.—Chiapas: Palenque, edge of savanna, July 9–14, *Matuda 3752*.

MELOCHIA PYRAMIDATA L.—Tabasco: Reforma, May 22–26, *Matuda 3189*.

DILLENIACEAE

CURATELLA AMERICANA L.—Tabasco: Ojo de Agua, southeast of Balancán, in savanna, May 9–14, *Matuda 3123*, a tree, 7 m. high, 30–35 cm. in diameter, vernacular name, *caticon*. Chiapas: Aguacate, July 16–18, *Matuda 3808*, a tree.

DAVILLA MATUDAI Lundell, *Phytologia*, 1: 371. 1940.—Chiapas: Javalinero, in forest, July 6–9, *Matuda 3647A* (type collection), a woody vine.

TETRACERA MOLLIS Standl., *Field Mus. Bot.*, 8: 25. 1930.—Chiapas: Javalinero, in forest, July 6–9, *Matuda 3647*, a woody vine.

ACTINIDIACEAE

SAURAUIA LEUCOCARPA Schlecht.—Tabasco: Retiro, in advanced forest, June 19–25, *Matuda 3453*, a tree, 17 m. high, 35 cm. in diameter; Boca del Cerro, in advanced forest, July 1–5, *Matuda 3555*, a tree, 8 m. high, 30 cm. in diameter. Chiapas: ruins of Palenque, in advanced forest, riverside, July 10–12, *Matuda 3700*, a tree, 10 m. high. The species has been widely confused with *S. pauciserrata* Hemsl.

OCHNACEAE

OURATEA NITIDA (Sw.)Engler.—Chiapas: Aguacate, in savanna forest, July 16–18, *Matuda 3804*, a small tree, corolla yellow.

OURATEA PECKII Riley, *Kew Bull.*, p. 109. 1924.—Tabasco: Reforma, in advanced forest, May 22–26, *Matuda 3151*, a small tree, 3 m. high; San Isidro, lakeside, June 7–11, *Matuda 3355*, a shrub, 3 m. high, corolla yellow; San Isidro, in swamp, *Matuda 3371*, a small tree.

SAUVAGESIA ERECTA L.—Tabasco: Ojo de Agua, southeast of Balancán, in savanna, May 9–14, *Matuda 3138*, corolla white.

MARCGRAVIACEAE

SOUROUBEA TRIANDRA Lundell, *Phytologia*, 1: 244. 1937.—Chiapas: ruins of Palenque, in advanced forest, July 10–12, *Matuda 3679*.

THEACEAE

TERNSTROEMIA TEPEZAPOTE Cham. & Schlecht.—Tabasco: Achotal, east of Balancán, in savanna forest, May 9–14, *Matuda 3104*, a tree, 7–9 m. high, 20–25 cm. in diameter.

GUTTIFERAE

CLUSIA LUNDELLII Standl., *Carnegie Inst. Wash. Publ.*, 461: 72. 1935.—Tabasco: Ojo de Agua, southeast of Balancán, in advanced forest, May 9–14, *Matuda 3139*, a tree, 10 m. high, 25–35 cm. in diameter.

HYPERICACEAE

VISMIA FERRUGINEA H. B. K.—Chiapas: Javalinero, in advanced forest, July 6–9, *Matuda 3599*, a tree, 10 m. high, 30 cm. in diameter.

VIOLACEAE

CORYNOSTYLIS ARBOREA (L.) Blake.—Tabasco: San Isidro, swampside, June 7–11, *Matuda 3356*, a woody vine, corolla white. Campeche: Vapor, swampside, July 25–28, *Matuda 3890*, a woody vine.

HYBANTHUS CALCEOLARIA (L.) G. K. Schulze.—Tabasco: Ojo de Agua, southeast of Balancán, in savanna, May 9–14, *Matuda*

3119. Chiapas: Aguacate, July 16–18, *Matuda 3787*, corolla white.

RINOREA HUMMELII Sprague, *Kew Bull.*, p. 307. 1921.—Tabasco: Achotal, east of Balancán, in advanced forest, May 9–14, *Matuda 3101*, a tree, 3 m. high, 10 cm. in diameter; San Isidro, in advanced forest, June 7–11, *Matuda 3353, 3354*.

FLACOURTIACEAE

CASEARIA ACULEATA Jacq.—Tabasco: Estapilla, in savanna, June 27, *Matuda 3518*, a small tree. Campeche: Palizada, July 25–28, *Matuda 3853*; Vapor, in forest, July 25–28, *Matuda 3914*, a tree, 5 m. high, flowers white.

CASEARIA BARTLETTII Lundell, *Lloydia*, 2: 104. 1939.—Tabasco: Retiro, in advanced forest, June 19–25, *Matuda 3470*.

CASEARIA JAVITENSIS H. B. K.—Tabasco: Achotal, east of Balancán, in advanced forest, May 9–14, *Matuda 3100*, a small tree. Chiapas: ruins of Palenque, in advanced forest, July 10–12, *Matuda 3696*, a tree, 3–4 m. high, fruits red.

CASEARIA NITIDA (L.) Jacq.—Tabasco: Mercedes, riverside, May 9–14, *Matuda 3011*, a tree, 3 m. high, 10 cm. in diameter; Achotal, east of Balancán, in second growth, May 9–14, *Matuda 3033*, a shrub, 3–4 m. high, 10–15 cm. in diameter; Reforma, in second growth, May 22–26, *Matuda 3178*, a shrub; San Isidro, in advanced forest, June 7–11, *Matuda 3341*, a tree, 3 m. high, 15 cm. in diameter; Retiro, in second growth, June 19–25, *Matuda 3433, 3461*, a tree.

HASSELTIA DIOICA (Benth.) Sleumer (?).—Tabasco: Mercedes, in second growth, May 9–14, *Matuda 3003*, a tree, 7 m. high; Reforma, May 22–26, *Matuda 3156*, a small tree, 3 m. high. Chiapas: Javalinero, in advanced forest, July 6–9, *Matuda 3597*, a tree, 8 m. high, 25 cm. in diameter.

LAETIA THAMNIA L.—Tabasco: San Isidro, June 7–11, *Matuda 3345*. Chiapas: Sierra de Palenque, in advanced forest, July 14, *Matuda 3715*, a tree, 10 m. high, 40 cm. in diameter.

ZUELANIA GUIDONIA (Sw.) Britt. & Millsp.—Tabasco: Ojo de Agua, southeast of Balancán, in second growth, May 9–14, *Matuda 3118*, a tree, 3–4 m. high, 15–20 cm. in diameter; Reforma, May 22–26, *Matuda 3233*, a tree, 8 m. high, 20 cm. in diameter.

FIG. 2. *Erblichia Standleyi* Steyermark. *Matuda 3319*, half natural size.

TURNERACEAE

ERBLICHIA STANDLEYI Steyermark, *Field Mus. Bot.*, 22: 356. 1940 (Fig. 2).—Tabasco: La Palma, in advanced forest, June 1–6, *Matuda 3319*, a tree, 25 m. high, 70 cm. in diameter, vernacular name, *San Pedro*.

PASSIFLORACEAE

PASSIFLORA FOETIDA var. CILIATA (Dryand.) Mast.—Tabasco: La Palma, June 1–6, *Matuda 3247* (det. Killip).

PASSIFLORA ROVIROSAE Killip.—Tabasco: La Palma, in second growth, June 1–6, *Matuda 3283* (det. Killip).

PASSIFLORA SERRATIFOLIA L.—Tabasco: Reforma, May 22–26, *Matuda 3207;* Retiro, in second growth, riverside, June 19–25, *Matuda 3434;* Boca del Cerro, in second growth, July 1–5, *Matuda 3583*.

CACTACEAE

DEAMIA TESTUDO (Karw.) B. &. R.—Campeche: Vapor, July 25–28, *Matuda 3897* (det. Clover), flowers white.

EPIPHYLLUM CRENATUM (Lindl.) G. Don.—Tabasco: La Palma, riverside, June 1–6, *Matuda 3310*, flowers white.

RHIPSALIS CASSUTHA Gaertn.—Tabasco: San Isidro, lakeside epiphyte, June 7–11, *Matuda 3384*.

RHIPSALIS CORIACEA Polak.—Tabasco: San Isidro, on tree, June 7–11, *Matuda 3369*.

LYTHRACEAE

(Determined by Robert C. Foster, Cambridge)

CUPHEA CARTHAGENENSIS (Jacq.) Macbr.—Chiapas: Palenque, in savanna, July 9–14, *Matuda 3749*, corolla blue.

CUPHEA DECANDRA var. PURPUSII (Brandeg.) Bacig.—Tabasco: Retiro, riverside, June 19–25, *Matuda 3426*, corolla blue.

LYTHRUM GRACILE Benth.—Tabasco: Reforma, riverside, May 22–26, *Matuda 3170*, corolla purple.

RHIZOPHORACEAE

RHIZOPHORA MANGLE L.—Tabasco: La Palma, riverside, June 1–6, *Matuda 3329*.

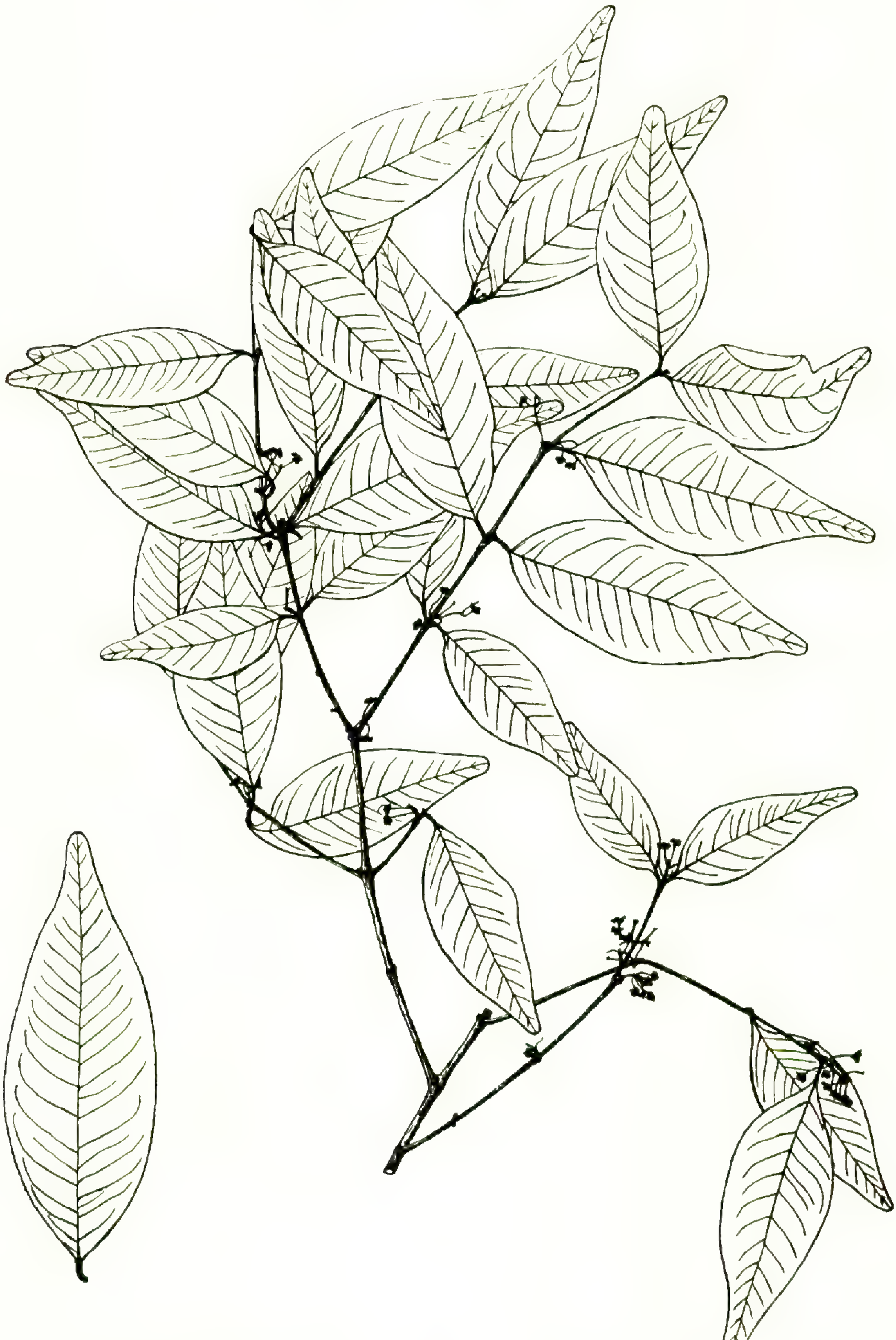

FIG. 3. *Eugenia balancanensis* Lundell. *Matuda 3361* (type collection), half natural size.

COMBRETACEAE

BUCIDA BUCERAS L.—Tabasco: Ojo de Agua, southeast of Balancán, in advanced forest, May 9–14, *Matuda 3121*, a tree, 12 m. high, 45 cm. in diameter; Reforma, May 22–26, *Matuda 3166*, a tree, 15 m. high, 60 cm. in diameter.

COMBRETUM MEXICANUM Humb. & Bonpl.—Tabasco: Mercedes, riverside, May 9–14, *Matuda 3024*, a tree, 7–10 m. high; Achotal, east of Balancán, in savanna, May 9–14, *Matuda 3082*, a woody vine; Boca del Cerro, edge of swamp, July 1–5, *Matuda 3532*, a woody vine, 25 cm. in diameter; Boca del Cerro, riverside, *Matuda 3537*, a woody vine. As currently interpreted, it is obvious that this species is a catch-all for various related forms of the complex.

MYRTACEAE

CALYPTRANTHES KARLINGII Standl., *Field Mus. Bot.*, 8: 29. 1930.—Tabasco: Boca del Cerro, on limestone at riverside, July 1–5, *Matuda 3564*, a small tree. Chiapas: Sierra de Palenque, in advanced forest, riverside, July 14, *Matuda 3717*, a tree, 5 m. high, 20 cm. in diameter.

EUGENIA BALANCANENSIS Lundell, *Phytologia*, 1: 481. 1941 (Fig. 3).—Tabasco: San Isidro, in advanced forest, June 7–11, *Matuda 3361* (type collection), a tree, 4 m. high, 15 cm. in diameter.

EUGENIA BRACTEOLOSA Lundell, *Contrib. Univ. Mich. Herb.*, 7: 31. 1942.—Tabasco: Reforma, May 22–26, *Matuda 3194*, a tree, 13 m. high, 20 cm. in diameter.

EUGENIA BUMELIOIDES Standl., *Carnegie Inst. Wash. Publ.*, 461: 75. 1935.—Tabasco: Boca del Cerro, on limestone at riverside, July 1–5, *Matuda 3563*, a small tree, 6–7 m. high.

EUGENIA CAMPECHIANA Lundell, *Contrib. Univ. Mich. Herb.*, 7: 32. 1942.—Campeche: Palizada, lakeside, July 25–28, *Matuda 3832* (type collection), a small tree, 3–4 m. high, corolla white; Palizada, *Matuda 3847*, fruits edible, vernacular name, *boroconte*.

EUGENIA CAPULI (Schl. & Cham.) Berg.—Tabasco: Mercedes, in second growth, May 9–14, *Matuda 3018*, a shrub.

EUGENIA LINDENIANA Berg.—Tabasco: Boca del Cerro, on limestone, July 1–5, *Matuda 3592*, a shrub, 2 m. high.

FIG. 4. *Eugenia tabascensis* Lundell. *Matuda 3561* (type collection), half natural size.

EUGENIA TABASCENSIS Lundell, *Phytologia*, 1: 482. 1941. (Fig. 4).—Tabasco: Boca del Cerro, on limestone, July 1–5, *Matuda 3561* (type collection), a small tree.

EUGENIA sp.—Chiapas: Javalinero, in advanced forest, July 6–9, *Matuda 3621*, a tree, 10 m. high, 35 cm. in diameter.

EUGENIA sp.—Tabasco: San Isidro, in forest, June 7–11, *Matuda 3342*, a tree, 4 m. high, 13 cm. in diameter.

EUGENIA sp.—Tabasco: La Palma, in second growth, June 1–6, *Matuda 3241*, a shrub.

MYRCIA RUFIDULA Schlecht.—Tabasco: Boca del Cerro, on limestone, July 1–5, *Matuda 3557*, a tree, 4 m. high, 15 cm. in diameter. Chiapas: Palenque, riverside, July 10–12, *Matuda 3672*, a tree, 4 m. high; Aguacate, in savanna forest, July 16–18, *Matuda 3811*, a small tree.

PIMENTA OFFICINALIS Lindl.—Tabasco: Estapilla, June 27, *Matuda 3496*, a tree, 15 m. high, 35 cm. in diameter, vernacular name, *pimiento de tierra*.

MELASTOMACEAE

(Determined by H. A. Gleason, New York)

ACIOTIS ROSTELLATA (Naud.) Triana.—Chiapas: Javalinero, edge of forest, July 6–9, *Matuda 3609*, corolla white.

ACISANTHERA QUADRATA Pers.—Tabasco: Ojo de Agua, southeast of Balancán, in savanna, May 9–14, *Matuda 3133*, 30 cm. high, corolla reddish.

BELLUCIA GROSSULARIOIDES (L.) Triana.—Chiapas: ruins of Palenque, July 10–12, *Matuda 3712*.

CLIDEMIA DENTATA D. Don.—Tabasco: Boca del Cerro, in advanced forest, July 1–5, *Matuda 3567*, a shrub, corolla reddish. Chiapas: Javalinero, in advanced forest, July 6–9, *Matuda 3654*, a shrub, 1–1.5 m. high, corolla reddish; ruins of Palenque, in advanced forest, July 10–12, *Matuda 3692*, a shrub, corolla reddish.

CLIDEMIA DEPENDENS D. Don.—Tabasco: Ojo de Agua, southeast of Balancán, in advanced forest, May 9–14, *Matuda 3130*, a shrub, 2 m. high. Chiapas: ruins of Palenque, in advanced forest, July 10–12, *Matuda 3663*, a shrub, corolla white.

CLIDEMIA DEPPEANA Steud.—Tabasco: La Palma, in advanced forest, June 1–6, *Matuda 3296*, a small shrub, 50–90 cm. high, corolla reddish; Boca del Cerro, July 1–5, *Matuda 3531*, a small tree, corolla reddish.

CLIDEMIA RUBRA (Aubl.) Mart.—Tabasco: Achotal, east of Balancán, in savanna, May 9–14, *Matuda 3049*, a shrub, 2 m. high. Chiapas: Palenque, in savanna forest, July 9–14, *Matuda 3725*, a shrub, 1 m. high.

CONOSTEGIA XALAPENSIS (Bonpl.) D. Don.—Tabasco: Achotal, east of Balancán, in savanna, May 9–14, *Matuda 3062*, a shrub, 1.5 m. high.

CONOSTEGIA sp.—Tabasco: Achotal, east of Balancán, in advanced forest, May 9–14, *Matuda 3068*, a small tree, 1.5 m. high, corolla white. Chiapas: Javalinero, in advanced forest, July 6–9, *Matuda 3601*, a shrub, corolla white.

HENRIETTEA SUCCOSA (Aubl.) DC.—Chiapas: Javalinero, in advanced forest, July 6–9, *Matuda 3657*, a tree, 10–12 m. high, 30 cm. in diameter.

HETEROTRICHUM OCTONUM (Bonpl.) DC.—Chiapas: Javalinero, in advanced forest, July 6–9, *Matuda 3655*, a shrub, 2 m. high, corolla white.

LEANDRA MEXICANA (Naud.) Cogn.—Chiapas: Javalinero, in advanced forest, July 6–9, *Matuda 3600*, a shrub, corolla reddish.

MICONIA ALBICANS (Sw.) Triana.—Tabasco: Achotal, east of Balancán, in savanna, May 9–14, *Matuda 3083*, a shrub, 1.5 m. high. Chiapas: Aguacate, in savanna, July 16–18, *Matuda 3782*, a shrub.

MICONIA ARGENTEA (Sw.) DC.—Tabasco: Achotal, east of Balancán, in advanced forest, May 9–14, *Matuda 3080*, a tree, 8 m. high, 25 cm. in diameter.

MICONIA DODECANDRA (Desr.) Cogn.—Chiapas: Javalinero, in advanced forest, July 6–9, *Matuda 3613*, a tree, 6 m. high, 18 cm. in diameter.

MICONIA IBAGUENSIS (Bonpl.) Triana.—Chiapas: Javalinero, in advanced forest, July 6–9, *Matuda 3602*, a shrub; ruins of Palenque, in advanced forest, July 10–12, *Matuda 3687*, a shrub, corolla white.

MICONIA LACERA (Bonpl.) Naud.—Chiapas: Javalinero, in advanced forest, July 6–9, *Matuda 3624*, a shrub, 2 m. high, corolla reddish.

MICONIA PTEROPODA Benth.—Chiapas: Javalinero, in advanced forest, July 6–9, *Matuda 3618*, a tree, 8 m. high, 19 cm. in diameter.

MICONIA PUNCTATA (Desr.) D. Don.—Chiapas: Javalinero, in advanced forest, July 6–9, *Matuda 3605*, a small tree, 6–7 m. high, 15 cm. in diameter.

MICONIA SCHLECHTENDALII Cogn.—Tabasco: San Isidro, in advanced forest, June 7–11, *Matuda 3376*, a small tree, corolla white. Campeche: Vapor, July 25–28, *Matuda 3907*, a shrub.

MICONIA SCORPIOIDES (Schl. & Cham.) Naud.—Tabasco: Ojo de Agua, southeast of Balancán, lakeside, May 9–14, *Matuda 3141*, a shrub, 2 m. high. Chiapas: Javalinero, in advanced forest, July 6–9, *Matuda 3598*, a small tree, 8 m. high, 15–25 cm. in diameter; Javalinero, *Matuda 3638*, a tree, 10 m. high, 15–20 cm. in diameter.

MOURIRIA GLEASONIANA Standl., *Field Mus. Bot.*, 22: 361. 1940.—Tabasco: Achotal, east of Balancán, in advanced forest, May 9–14, *Matuda 3093* (type collection), a tree, 4–5 m. high, 10–15 cm. in diameter; San Isidro, June 7–11, *Matuda 3339*. The two collections were referred to *M. Muelleri* Cogn. by the writer, and distributed under that name. *M. Muelleri* is very closely related if not conspecific.

MOURIRIA PARVIFOLIA Benth.—Tabasco: Achotal, east of Balancán, in advanced forest, May 9–14, *Matuda 3046*, a shrub, 3 m. high, 10–15 cm. in diameter, corolla yellowish; Reforma, May 22–26, *Matuda 3208*. Campeche: Vapor, July 25–28, *Matuda 3891*, a shrub, corolla white.

ONAGRACEAE

JUSSIAEA NATANS H. B. K.—Tobasco: Boca del Cerro, in swamp, July 1–5, *Matuda 3538*, corolla white.

JUSSIAEA SUFFRUTICOSA L.—Tabasco: Mercedes, lakeside, May 9–14, *Matuda 3008*.

ARALIACEAE

GILIBERTIA ARBOREA (L.) March.—Tabasco: Retiro, in advanced forest, June 19–25, *Matuda 3474*, a tree, 15 m. high, 45 cm. in diameter; La Palma, in advanced forest, June 1–6, *Matuda 3239*, a shrub. Chiapas: Javalinero, in advanced forest, July 6–9, *Matuda 3636*, a small tree; Sierra de Palenque, in advanced forest, July 14, *Matuda 3719*, a small tree.

GILIBERTIA MATUDAI Lundell, *Phytologia*, 1: 372. 1940.—Tabasco: Reforma, in advanced forest, May 22–26, *Matuda 3152* (type collection), a small tree, 3 m. high.

OREOPANAX GUATEMALENSE (Lem.) Dec. & Pl.—Tabasco: Boca del Cerro, July 1–5, *Matuda 3551*.

UMBELLIFERAE

ERYNGIUM NASTURTIIFOLIUM Juss.—Tabasco: Mercedes, lakeside, May 9–14, *Matuda 3014* (det. Constance).

HYDROCOTYLE UMBELLATA L.—Campeche: Palizada, swampside, July 25–28, *Matuda 3854*.

MYRSINACEAE

ARDISIA MATUDAI Lundell, *Lloydia*, 4: 55. 1941.—Tabasco: La Palma, in advanced forest, June 1–6, *Matuda 3295* (type collection), a small tree, flowers white; San Isidro, in advanced forest, June 7–11, *Matuda 3364*, a small tree, flowers white. Chiapas: Javalinero, in advanced forest, July 6–9, *Matuda 3648*, a small tree, 4 m. high, flowers white.

PARATHESIS AERUGINOSA Standl.—Tabasco: Juarez, near Tenosique, June 14–16, *Matuda 3391*, a treelet, 3 m. high, flowers red.

PARATHESIS CUBANA (A. DC.) Molinet & Maza. *Parathesis obovata* Standl., *Field Mus. Bot.*, 4: 250. 1929.—Tabasco: La Palma, June 1–6, *Matuda 3265*, a shrub.

STYLOGYNE LAEVIS (Oerst.) Mez.—Chiapas: Javalinero, in advanced forest, July 6–9, *Matuda 3622*, a tree, 3 m. high, 30 cm. in diameter.

THEOPHRASTACEAE

JACQUINIA AURANTIACA Ait.—Tabasco: San Isidro, swampside, June 7–11, *Matuda 3377*, a tree, 15 m. high, 40 cm. in diameter. Campeche: Vapor, swampside, July 25–28, *Matuda 3913*, a tree, 7–10 m. high, 20–30 cm. in diameter.

SAPOTACEAE

ACHRAS ZAPOTA L.—Tabasco: La Palma, June 1–6, *Matuda 3254*, a tree.

BUMELIA MAYANA Standl., *Trop. Woods*, 31: 41. 1932.—Tabasco: Achotal, east of Balancán, in savanna, May 9–14, *Matuda 3034*, a shrub, 2 m. high.

BUMELIA TABASCENSIS Lundell, *Contrib. Univ. Mich. Herb.*, 4: 22. 1940.—Tabasco: Retiro, in advanced forest, June 19–25, *Matuda 3455* (type collection), a tree, 18 m. high, 35 cm. in diameter.

LUCUMA CAMPECHIANA H. B. K.—Tabasco: Achotal, east of Balancán, in advanced forest, May 9–14, *Matuda 3071*, a tree, 10 m. high, 30 cm. in diameter.

LUCUMA DURLANDII Standl.—Tabasco: La Palma, in advanced forest, June 1–6, *Matuda 3297*, a small tree.

LUCUMA LAETEVIRIDIS Pittier.—Tabasco: San Isidro, in advanced forest, June 7–11, *Matuda 3351*, a tree, 7–10 m. high, 45 cm. in diameter. Chiapas: ruins of Palenque, in advanced forest, July 10–12, *Matuda 3713*, a tree, 10 m. high, 45 cm. in diameter.

MAMMEA AMERICANA L.—Tabasco: Boca del Cerro, July 1–5, *Matuda 3580*, a tree, 15–20 m. high, 55–70 cm. in diameter, vernacular name, *mamey*.

SIDEROXYLON LUNDELLII Standl., *Carnegie Inst. Wash. Publ.*, 461: 79. 1935.—Tabasco: Achotal, east of Balancán, in advanced forest, May 9–14, *Matuda 3073*, a tree, 8–10 m. high, 30–40 cm. in diameter.

EBENACEAE

DIOSPYROS BUMELIOIDES Standl., *Trop. Woods*, 18: 31. 1929. —Campeche: Vapor, swampside, July 25–28, *Matuda 3889*, a shrub.

FIG. 5. *Diospyros campechiana* Lundell. *Matuda 3843* (type collection), half natural size.

DIOSPYROS CAMPECHIANA Lundell, *Contrib. Univ. Mich. Herb.*, 4: 23. 1940 (Fig. 5).—Campeche: Palizada, swampside, July 25–28, *Matuda 3843* (type collection), a tree, 7–10 m. high, 40–45 cm. in diameter.

DIOSPYROS EBENASTER Retz.—Tabasco: Boca del Cerro, riverside, July 1–5, *Matuda 3540*, a tree, 15 m. high, 45 cm. in diameter, vernacular name, *tauchi*.

DIOSPYROS YUCATANENSIS Lundell, *Carnegie Inst. Wash. Publ.*, 478: 217. 1937.—Tabasco: San Isidro, in advanced forest, June 7–11, *Matuda 3378*, a tree, 15 m. high, 35 cm. in diameter; Tenosique, in advanced forest, June 14–16, *Matuda 3401*, a tree, 5 m. high.

OLEACEAE

LINOCIERA OBLANCEOLATA Rob.—Tabasco: La Palma, in advanced forest, June 1–6, *Matuda 3284*, a small tree, 4 m. high, 15 cm. in diameter.

LOGANIACEAE

POLYPREMUM PROCUMBENS L.—Tabasco: Achotal, east of Balancán, in savanna, May 9–14, *Matuda 3059, 3108*.

SPIGELIA HUMBOLDTIANA Cham. & Schlecht.—Tabasco: Retiro, in advanced forest, June 19–25, *Matuda 3438*.

STRYCHNOS BRACHISTANTHA Standl., *Field Mus. Bot.*, 12: 412. 1936.—Tabasco: San Isidro, in advanced forest, June 7–11, *Matuda 3374*, a woody vine, 30 m. high.

STRYCHNOS TABASCANA Sprague & Sandw., *Kew Bull.*, p. 128. 1927. *Strychnos panamensis* var. *hirtiflora* Standl., *Field Mus. Bot.*, 11: 138. 1932. *Strychnos hirtiflora* (Standl.) Lundell, *Bull. Torrey Bot. Club*. 64: 556. 1937.—Tabasco: La Palma, in advanced forest, June 1–6, *Matuda* 3285, a woody vine, corolla yellowish.

GENTIANACEAE

COUTOUBEA SPICATA Aubl.—Chiapas: Palenque, in savanna, July 9–14, *Matuda 3745*.

EUSTOMA EXALTATUM (L.) Griseb.—Tabasco: Reforma, riverside, May 22–26, *Matuda 3171*, an annual, corolla blue.

MENYANTHACEAE

LIMNANTHEMUM HUMBOLDTIANUM (H. B. K.) Griseb.—Campeche: Palizada, in lake, July 25–28, *Matuda 3827*.

APOCYNACEAE

MANDEVILLA SUBSAGITTATA (R. & P.) Woodson.—Tabasco: Achotal, east of Balancán, in second growth, May 9–14, *Matuda 3055*, a vine, corolla yellow. Chiapas: Javalinero, July 6–9, *Matuda 3651*, a vine.

PLUMERIOPSIS AHOUAI (L.) Rusby & Woodson, *Ann. Missouri Bot. Gard.*, 24: 11. 1937. *Thevetia Ahouai* (L.) A. DC., DC. *Prodr.*, 8: 344. 1844. *Thevetia nitida* (H. B. K.) A. DC., DC. *Prodr.*, 8: 345. 1844.—Tabasco: Achotal, east of Balancán, in second growth, May 9–14, *Matuda 3078*, a shrub. Although the plant may be native to the Yucatán Peninsula, it has been observed and collected only in clearings and second growth.

PRESTONIA GUATEMALENSIS Woods., *Ann. Missouri Bot. Gard.*, 23: 339. 1936.—Tabasco: Tenosique, in second growth, June 14–16, *Matuda 3405*.

PRESTONIA MEXICANA A. DC.—Tabasco: Boca del Cerro, in second growth, July 1–5, *Matuda 3582* (det. Woodson). Chiapas: Aguacate, July 16–18, *Matuda 3803*, a vine.

TABERNAEMONTANA CHRYSOCARPA Blake.—Tabasco: Ojo de Agua, southeast of Balancán, in second growth, May 9–14, *Matuda 3124*, a tree, 3 m. high; Estapilla, edge of savanna, June 27, *Matuda 3522*, a small tree, corolla yellow.

URECHITES ANDRIEUXII Muell. Arg.—Chiapas: ruins of Palenque, edge of advanced forest, July 10–12, *Matuda 3677*, a vine.

ASCLEPIADACEAE

ASCLEPIAS LONGICORNU Benth.—Tabasco: Estapilla, in savanna, June 27, *Matuda 3510* (det. Woodson).

ASCLEPIAS SETOSA Benth.—Tabasco: Estapilla, in savanna, June 27, *Matuda 3510A* (det. Woodson).

FISCHERIA BRIQUETIANA Standl., *Field Mus. Bot.*, 11: 139. 1932.—Tabasco: Retiro, in second growth, June 19–25, *Matuda 3432*.

GONOLOBUS CTENIOPHORUS (Blake) Woodson, *Ann. Miss. Bot. Gard.*, 28: 243. 1941. *Vincetoxicum cteniophorum* Blake, *Contrib. Gray Herb.*, 52: 84. 1917. *Vincetoxicum Lundellii* Standl., *Field Mus. Bot.*, 8: 148. 1930.—Campeche: Vapor, July 25–28, *Matuda 3903* (det. Woodson), a vine.

METASTELMA BARBIGERUM Scheele.—Chiapas: Aguacate, July 16–18, *Matuda 3765* (det. Woodson).

CONVOLVULACEAE

ANISEIA MARTINICENSIS (Jacq.) Choisy.—Campeche: Palizada, July 25–28, *Matuda 3857* (det. Martin), flowers white.

EVOLVULUS FILIPES Mart.—Chiapas: Aguacate, July 16–18, *Matuda 3790* (det. Martin).

EVOLVULUS SERICEUS Swartz.—Tabasco: Estapilla, in savanna, June 27, *Matuda 3504*, corolla white.

IPOMOEA APHYLLA Standl., *Field Mus. Bot.*, 11: 139. 1933.—Chiapas: Palenque, in savanna, July 9–14, *Matuda 3739*, corolla white.

IPOMOEA CALLIDA House (?).—Campeche: Palizada, July 25–28, *Matuda 3831* (det. Martin), a vine.

IPOMOEA CISSOIDES (Lam.) Griseb.—Tabasco: Achotal, east of Balancán, in savanna, May 9–14, *Matuda 3061* (det. Martin), corolla white.

IPOMOEA CRASSICAULIS (Benth.) Robinson.—Campeche: Palizada, edge of swamp, July 25–28, *Matuda 3835*.

IPOMOEA RUBRA (Vahl) Millsp.—Tabasco: La Palma, riverside, June 1–6, *Matuda 3252* (det. Martin), a vine, corolla red.

IPOMOEA SAGITTATA Cav.—Tabasco: La Palma, riverside, June 1–6, *Matuda 3253* (det. Martin), a vine, corolla red.

IPOMOEA SQUAMOSA Choisy.—Chiapas: Palenque, in savanna, July 9–14, *Matuda 3733A* (det. Martin).

JACQUEMONTIA AZUREA (Desr.) Choisy.—Chiapas: Aguacate, July 16–18, *Matuda 3763*, a vine, corolla blue.

JACQUEMONTIA TAMNIFOLIA (L.) Griseb.—Chiapas: Aguacate, swampside, July 16–18, *Matuda 3813*, corolla blue.

OPERCULINA ORNITHOPODA (Rob.) House.—Tabasco: Estapilla, in savanna, June 27, *Matuda 3508*, a vine, corolla white.

BORAGINACEAE

BOURRERIA OXYPHYLLA Standl., *Trop. Woods*, 16: 40. 1928.—Chiapas: ruins of Palenque, in advanced forest, July 10–12, *Matuda 3682*, a tree, 8 m. high, corolla white.

CORDIA ALBA (Jacq.) R. & S.—Tabasco: Mercedes, riverside, May 9–14, *Matuda 3020*, a tree, 8–10 m. high, 30 cm. in diameter, corolla yellow.

CORDIA DIVERSIFOLIA Pavon.—Tabasco: Boca del Cerro, July 1–5, *Matuda 3584*.

CORDIA GLABRA L.—Tabasco: Reforma, May 22–26, *Matuda 3215*.

CORDIA STENOCLADA Johnston, *Journ. Arn. Arb.*, 21: 353. 1940.—Chiapas: Javalinero, in second growth, July 6–9, *Matuda 3658*, a tree, 7–8 m. high, 35 cm. in diameter; ruins of Palenque, in advanced forest, July 10–12, *Matuda 3695*, a tree, 10 m. high, 40 cm. in diameter, corolla white. The two collections agree closely with the description of this recently proposed species.

HELIOTROPIUM ANGIOSPERMUM Murr.—Tabasco: Reforma, May 22–26, *Matuda 3226*.

HELIOTROPIUM FILIFORME Lehm.—Tabasco: Achotal, east of Balancán, in savanna, May 9–14, *Matuda 3050*, corolla white.

TOURNEFORTIA GLABRA L.—Tabasco: Retiro, in second growth, June 19–25, *Matuda 3412*, corolla white.

TOURNEFORTIA HIRSUTISSIMA L.—Tabasco: Mercedes, in second growth, May 9–14, *Matuda 3016*.

VERBENACEAE

AEGIPHILA ELATA Sw.—Tabasco: Achotal, east of Balancán, in advanced forest, May 9–14, *Matuda 3031*, a woody vine; Achotal, in savanna, *Matuda 3081*, a woody vine; Tenosique, in second growth, June 14–16, *Matuda 3406*, a woody vine.

CALLICARPA ACUMINATA H. B. K.—Chiapas: Javalinero, in second growth, July 6–9, *Matuda 3641*, a shrub, 2.5 m. high.

CITHAREXYLUM CAUDATUM L.—Tabasco: Achotal, east of Balancán, in advanced forest, May 9–14, *Matuda 3066*, a tree, 4–5 m. high. Chiapas: Aguacate, in savanna forest, July 16–18, *Matuda 3771, 3776*, a treelet, 2.5 m. high.

CITHAREXYLUM HEXANGULARE Greenm.—Tabasco: Boca del Cerro, on limestone, riverside, July 1–5, *Matuda 3562*, a shrub. Campeche: Palizada, July 25–28, *Matuda 3861*, a shrub, corolla white.

CLERODENDRUM FRAGRANS var. PLENIFLORUM Schau.—Tabasco: La Palma, in second growth, June 1–6, *Matuda 3282*.

CLERODENDRUM LIGUSTRINUM (Jacq.) R. Br.—Tabasco: Reforma, riverside, May 22–26, *Matuda 3168, 3169*, a woody vine, corolla white.

CORNUTIA LATIFOLIA (H. B. K.) Moldenke.—Tabasco: Tenosique, in second growth, June 14–16, *Matuda 3398*, a shrub, corolla purplish. Chiapas: Aguacate, in second growth, July 16–18, *Matuda 3807*, a shrub, corolla purplish.

DURANTA REPENS L.—Tabasco: Tenosique, in second growth, June 14–16, *Matuda 3395*.

LIPPIA HYPOLEIA Briq.—Chiapas: Javalinero, in second growth, July 6–9, *Matuda 3630* (det. Moldenke).

LIPPIA MYRIOCEPHALA Schl. & Cham.—Chiapas: Javalinero, in second growth, July 6–9, *Matuda 3642* (det. Moldenke).

PHYLA SCABERRIMA (A. L. Juss.) Moldenke.—Tabasco: Provincia, May 29, *Matuda 3224* (det. Moldenke).

PHYLA STOECHADIFOLIA (L.) Small.—Tabasco: La Palma, June 1–6, *Matuda 3273* (det. Moldenke).

STACHYTARPHETA TABASCANA Moldenke, *Phytologia*, 1: 437. 1940 (Fig. 6).—Tabasco: Reforma, May 22–26, *Matuda 3218* (type collection).

VITEX GAUMERI Greenm.—Tabasco: Ojo de Agua, southeast of Balancán, in forest, May 9–14, *Matuda 3115*, a tree, 7–10 m. high, 45 cm. in diameter; Reforma, in advanced forest, May 22–26, *Matuda 3231*, a tree, 14 m. high, 55 cm. in diameter, corolla blue. Campeche: Vapor, in forest, July 25–28, *Matuda 3905*, a tree, 10–15 m. high, 40 cm. in diameter, corolla blue.

LABIATAE

HYPTIS VERTICILLATA Jacq.—Tabasco: Reforma, May 22–26, *Matuda 3227*.

SALVIA COCCINEA L.—Tabasco: La Palma, in second growth, June 1–6, *Matuda 3272*, corolla red.

FIG. 6. *Stachytarpheta tabascana* Moldenke. *Matuda 3218* (type collection), half natural size.

SCUTELLARIA ORICHALCEA Donn. Sm.—Chiapas: ruins of Palenque, in advanced forest, riverside, July 10–12, *Matuda 3681.*

TEUCRIUM VESICARIUM Mill.—Tabasco: Mercedes, lakeside, May 9–14, *Matuda 3006*, corolla blue; La Palma, in second growth, June 1–6, *Matuda 3257;* Estapilla, in savanna, June 27, *Matuda 3512*, corolla blue.

SOLANACEAE

ATHENAEA NELSONI Fernald.—Tabasco: Retiro, in advanced forest, June 19–25, *Matuda 3447* (det. Morton), a shrub.

JUANULLOA MEXICANA (Schlecht.) Miers.—Chiapas: Aguacate, in savanna forest, July 16–18, *Matuda 3822*, on tree.

PHYSALIS ANGULATA L.—Campeche: Palizada, swampside, July 25–28, *Matuda 3867* (det. Morton).

PHYSALIS sp.—Tabasco: La Palma, in second growth, June 1–6, *Matuda 3312.*

SOLANUM GUANICENSE Urban.—Campeche: Palizada, July 25–28, *Matuda 3848* (det. Morton).

SOLANUM HETEROCLITUM Sendtn.—Tabasco: Tenosique, in advanced forest, June 14–16, *Matuda 3449* (det. Morton).

SOLANUM HOUSTONII Dunal.—Campeche: Vapor, swampside, July 25–28, *Matuda 3883* (det. Morton), corolla yellow.

SOLANUM JAMAICENSE Mill.—Chiapas: Javalinero, in advanced forest, July 6–9, *Matuda 3633* (det. Morton), corolla white.

SOLANUM NUDUM H. B. K.—Tabasco: Mercedes, in second growth, May 9–14, *Matuda 3005*; Tenosique, in second growth, June 14–16, *Matuda 3396;* Retiro, in advanced forest, June 19–25; *Matuda 3435;* Boca del Cerro, in second growth, July 1–5, *Matuda 3579.*

SOLANUM PURPUSII Brandeg.—Chiapas: Javalinero, in advanced forest, July 6–9, *Matuda 3649*, (det. Morton), a vine, corolla yellow.

SOLANUM ROVIROSANUM Donn. Sm.—Tabasco: San Isidro, in advanced forest, June 7–11, *Matuda 3359* (det. Morton), a shrub, corolla white.

SCROPHULARIACEAE

ANGELONIA CILIARIS Robinson.—Tabasco: Achotal, east of Balancán, in savanna, May 9–14, *Matuda 3039*, corolla blue.

BACOPA SALZMANNII (Benth.) Chod. & Hassl.—Chiapas: Aguacate, in savanna, July 16–18, *Matuda 3764* (det. Morton), flowers yellow.

BUCHNERA LITHOSPERMIFOLIA H. B. K.—Tabasco: Estapilla, in savanna, June 27, *Matuda 3514*, corolla violet.

BUCHNERA PUSILLA H. B K.—Tabasco: Achotal, east of Balancán, in savanna, May 9–14, *Matuda 3143A*, corolla white.

CAPRARIA BIFLORA L.—Tabasco: La Palma, June 1–6, *Matuda 3271*.

ESCOBEDIA LAEVIS Cham. & Schlecht.—Tabasco: Achotal, east of Balancán, in savanna, May 9–14, *Matuda 3044*, corolla white.

GERARDIA HARPERI (Penn.) Penn.—Tabasco: Achotal, east of Balancán, in savanna, May 9–14, *Matuda 3040*.

RUSSELIA TABASCENSIS Lundell, *Contrib. Univ. Mich. Herb.*, 6: 59. 1941.—Tabasco: Estapilla, in savanna, June 27, *Matuda 3524* (type collection), corolla red.

SCOPARIA DULCIS L.—Tabasco; Achotal, east of Balancán, in savanna, May 9–14, *Matuda 3053*.

STEMODIA DURANTIFOLIA (L.) Sw.—Tabasco: Estapilla, in savanna, June 27, *Matuda 3523* (det. Morton).

UROSKINNERA FLAVIDA Lundell, *Harvard Bot. Mus. Leaflets*, 9: 68. 1941.—Tabasco: Retiro, on limestone, June 19–25, *Matuda 3425* (type collection), corolla yellowish.

BIGNONIACEAE

ARRABIDAEA INAEQUALIS (DC. ex Splitg.) K. Schum.—Chiapas: ruins of Palenque, in advanced forest, July 10–12, *Matuda 3668* (det. Seibert), a woody vine, corolla reddish.

CLYTOSTOMA OCOSITENSE (Donn. Sm.) Seibert, *Carnegie Inst. Wash. Publ.*, 522: 413. 1940. *Adenocalymna* (?) *ocositense* Donn. Sm., *Bot. Gaz.*, 18: 209. 1893. *Clytostoma elegans* Standl., *Carnegie Inst. Wash. Publ.*, 461: 86. 1935.—Tabasco: Retiro, in second growth, riverside, June 19–25, *Matuda 3421* (det. Seibert). Campeche: Vapor, July 25–28, *Matuda 3881* (det. Seibert), a woody vine.

CYDISTA POTOSINA (K. Schum. & Loes.) Loes. *Clytostoma mayanum* Standl., *Carnegie Inst. Wash. Publ.*, 461: 86. 1935.—

Tabasco: La Palma, June 1–6, *Matuda 3278* (det. Seibert), a woody vine; Estapilla, edge of savanna, June 27, *Matuda 3528* (det. Seibert), a woody vine, corolla red.

ENALLAGMA LATIFOLIA (Mill.) Small.—Tabasco: San Isidro, in advanced forest, June 7–11, *Matuda 3388* (det. Seibert), a small tree, 4 m. high, 20 cm. in diameter.

PARMENTIERA PARVIFLORA Lundell, *Lloydia*, 3: 211. 1940.—Tabasco: Reforma, riverside, May 22–26, *Matuda 3209, 3210* (type collection), a shrub.

TYNANTHUS GUATEMALENSIS Donn. Sm.—Tabasco: La Palma, June 1–6, *Matuda 3277* (det. Seibert), a woody vine, 20 m. high, corolla yellowish.

GESNERIACEAE

(Determined by C. V. Morton, Washington)

CODONANTHE CRASSIFOLIA (Focke) Morton.—Tabasco: San Isidro, on tree, July 7–11, *Matuda 3381*, corolla reddish.

COLUMNEA SULPHUREA Donn. Sm.—Chiapas: Sierra de Palenque, in advanced forest, on tree, July 14, *Matuda 3714*, corolla yellow.

DRYMONIA CHIAPENSIS Brandeg. (?).—Tabasco: Retiro, in advanced forest, June 19–25, *Matuda 3440*, a vine, corolla reddish.

LENTIBULARIACEAE

UTRICULARIA FOLIOSA L.—Campeche: Vapor, in lake, July 25–28, *Matuda 3873*, flowers yellow.

UTRICULARIA OBTUSA Sw.—Tabasco: La Palma, in lagoon, June 1–6, *Matuda 3235*, flowers yellow. Campeche: Vapor, in lake, July 25–28, *Matuda 3875*, flowers yellow.

UTRICULARIA PUSILLA Vahl.—Chiapas: Agacuate, in savanna, July 16–18, *Matuda 3779*, flowers yellow.

ACANTHACEAE

DIANTHERA ANAGALLIS Hemsl.—Campeche: Vapor, swamp-side, July 25–28, *Matuda 3888* (det. Leonard), corolla reddish.

JUSTICIA PECTORALIS Jacq.—Tabasco: San Isidro, in advanced forest, June 7–11, *Matuda 3334*.

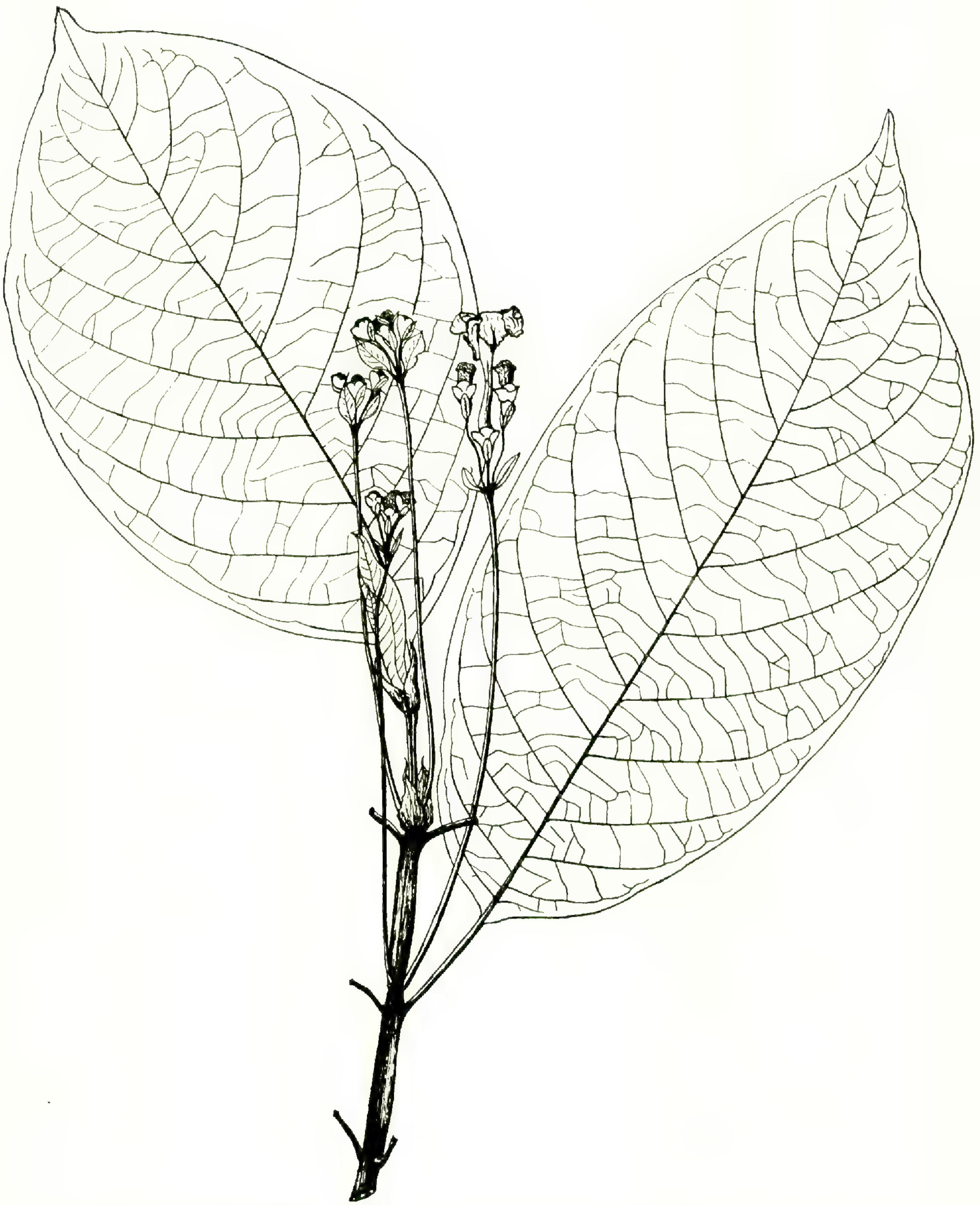

FIG. 7. *Blepharidium mexicanum* Standl. *Matuda 3670* (type collection), half natural size.

ODONTONEMA CALLISTACHYUM (Schl. & Cham.) Kuntze.—Tabasco: Boca del Cerro, in advanced forest, July 1–5, *Matuda 3566*. Chiapas: ruins of Palenque, in advanced forest, July 10–12, *Matuda 3694*.

RUELLIA NUDIFLORA var. YUCATANA Leonard.—Tabasco: Retiro, riverside, June 19–25, *Matuda 3469*.

RUELLIA STEMONACANTHOIDES (Oerst.) Hemsl.—Tabasco: Retiro, in advanced forest, June 19–25, *Matuda 3472*.

PLANTAGINACEAE

PLANTAGO MAJOR L.—Tabasco: La Palma, riverside, June 1–6, *Matuda 3320*.

RUBIACEAE

ALIBERTIA EDULIS (L. Rich.) A. Rich.—Tabasco: La Palma, June 1–6, *Matuda 3298*, a treelet; San Isidro, in advanced forest, June 7–11, *Matuda 3362*, a small tree, 3 m. high, corolla white. Campeche: Vapor, July 25–28, *Matuda 3904*, a shrub.

ALSEIS YUCATANENSIS Standl., *Field Mus. Bot.*, 8: 50. 1930.—Tabasco: La Palma, in advanced forest, June 1–6, *Matuda 3293*, *3333*, a tree, 20 m. high, 40 cm. in diameter, vernacular name, *papelillo*.

AMAIOUA CORYMBOSA H. B. K.—Tabasco: Ojo de Agua, southeast of Balancán, May 9–14, *Matuda 3131*, a tree, 3 m. high, 7–10 cm. in diameter, vernacular name, *tarro de venado*. Chiapas: Javalinero, in advanced forest, July 6–9, *Matuda 3596*, a tree, 10 m. high, 30 cm. in diameter.

ANISOMERIS PROTRACTA (Bartl.) Standl.—Chiapas: Palenque, in savanna, July 9–14, *Matuda 3730*, a shrub; Aguacate, in savanna forest, July 16–18, *Matuda 3789*, a tree, 5 m. high, 20 cm. in diameter.

APPUNIA GUATEMALENSIS Donn. Sm.—Chiapas: Javalinero, in advanced forest, July 6–9, *Matuda 3611*, a shrub.

BERTIERA GUIANENSIS Aubl.—Chiapas: Javalinero, in advanced forest, July 6–9, *Matuda 3653*, a shrub, corolla white.

BLEPHARIDIUM MEXICANUM Standl., *Field Mus. Bot.*, 22: 108. 1940 (Fig. 7).—Chiapas: ruins of Palenque, in advanced forest, July 10–12, *Matuda 3670* (type collection), a tree, 5–6 m. high, corolla white.

FIG. 8. *Chione chiapensis* Standl. *Matuda 3675* (type collection), half natural size.

BORRERIA SUAVEOLENS Mey.—Tabasco: Achotal, east of Balancán, in savanna, May 9–14, *Matuda 3056* (det. Standl.); Retiro, on limestone, riverside, June 19–25, *Matuda 3467* (det. Standl.).

CEPHAELIS TOMENTOSA (Aubl.) Vahl.—Tabasco: Achotal, east of Balancán, edge of forest, May 9–14, *Matuda 3084*, vernacular name, *cresta de gallo*.

CEPHALANTHUS OCCIDENTALIS L.—Tabasco: Mercedes, lakeside, May 9–14, *Matuda 3028*, a shrub.

CHIOCOCCA ALBA (L.) Hitchc.—Tabasco: Retiro, riverside, on limestone, June 19–25, *Matuda 3428*, corolla yellow. Campeche: Vapor, July 25–28, *Matuda 3906*, corolla white.

CHIONE CHIAPENSIS Standl., *Field Mus. Bot.*, 22: 110. 1940 (Fig. 8).—Chiapas: ruins of Palenque, in advanced forest, riverside, July 10–12, *Matuda 3675* (type collection), a tree, 8 m. high, 35 cm. in diameter.

COCCOCYPSELUM HIRSUTUM Bartl.—Tabasco: Ojo de Agua, southeast of Balancán, May 9–14, *Matuda 3113*, corolla purplish, fruits blue. Chiapas: ruins of Palenque, in advanced forest, July 10–12, *Matuda 3667*.

DIODIA RIGIDA (Willd.) Cham. & Schlecht.—Tabasco: Achotal, east of Balancán, in savanna, May 9–14, *Matuda 3107*.

FARAMEA OCCIDENTALIS (L.) Rich.—Tabasco: Reforma, May 22–26, *Matuda 3184*, a shrub; San Isidro, in advanced forest, June 7–11, *Matuda 3344*, a tree, 4 m. high, 25 cm. in diameter, corolla white.

GONZALAGUNIA PANAMENSIS (Cav.) Schum.—Tabasco: Retiro, in second growth, June 19–25, *Matuda 3456*, a shrub.

GUETTARDA COMBSII Urban.—Tabasco: Reforma, May 22–26, *Matuda 3187*, a small tree, corolla white; Boca del Cerro, on limestone, July 1–5, *Matuda 3591*, a tree, 4–5 m. high. Chiapas: ruins of Palenque, in advanced forest, July 10–12, *Matuda 3703*, a tree, 8 m. high.

GUETTARDA ELLIPTICA Swartz.—Tabasco: Reforma, May 22–26, *Matuda 3148*, a small tree, 4 m. high, 12 cm. in diameter; Provincia, May 27, *Matuda 3216*, a small tree; Boca del Cerro, on limestone, July 1–5, *Matuda 3530*, a small tree, 4 m. high; Boca del Cerro, in advanced forest, July 1–5, *Matuda 3560*, a

tree, 10 m. high, 25 cm. in diameter. The continental collections, now referred to this species, may represent a distinct form.

HAMELIA AXILLARIS Swartz.—Tabasco: Retiro, in advanced forest, June 19–25, *Matuda 3439*, a shrub, corolla yellow.

HAMELIA PATENS Jacq.—Tabasco: La Palma, in second growth, June 1–6, *Matuda 3245*, a shrub.

HOFFMANNIA REFULGENS (Hook.) Hemsl.—Tabasco: Tenosique, in advanced forest, June 14–16, *Matuda 3448* (det. Standl.).

LINDENIA RIVALIS Benth.—Tabasco: Tenosique, riverside, June 27, *Matuda 3493*. Chiapas: Javalinero, in the Chacamax River, July 6–9, *Matuda 3615*.

MACHAONIA ACUMINATA H. B. K.—Tabasco: Estapilla, edge of savanna, June 27, *Matuda 3525*, a tree, 3 m. high, 20 cm. in diameter. Chiapas: Aguacate, swampside, July 16–18, *Matuda 3814* (?), a tree, 7 m. high, 15 cm. in diameter, flowers fragrant, corolla white. Campeche: Vapor, July 25–28, *Matuda 3909*, a tree, 5 m. high, 25 cm. in diameter, corolla white.

MORINDA PANAMENSIS Seem.—Chiapas: ruins of Palenque, in advanced forest, July 10–12, *Matuda 3673*, a tree, 8 m. high, 35 cm. in diameter.

MORINDA YUCATANENSIS Greenm.—Tabasco: Mercedes, in second growth, May 9–14, *Matuda 3026;* Reforma, May 22–26, *Matuda 3174*, a shrub, corolla white. Two species may be represented.

PALICOUREA CROCEA (Sw.) R. & S.—Tabasco: Achotal, east of Balancán, lakeside, May 9–14, *Matuda 3036*, a shrub. Campeche: Vapor, July 25–28, *Matuda 3902*, a shrub, corolla yellow.

POSOQUERIA LATIFOLIA (Rudge) R. & S.—Chiapas: Javalinero, in advanced forest, July 6–9, *Matuda 3619*, a tree, 10 m. high, 25 cm. in diameter; ruins of Palenque, in advanced forest, July 10–12, *Matuda 3707*, a tree, 10 m. high, 30 cm. in diameter, corolla white.

PSYCHOTRIA BRACHIATA Sw.—Chiapas: ruins of Palenque, in advanced forest, July 10–12, *Matuda 3664* (det. Standl.), a shrub.

PSYCHOTRIA CARTHAGINENSIS Jacq.—Tabasco: Mercedes, in second growth, May 9–14, *Matuda 3025* (det. Standl.), a shrub.

PSYCHOTRIA CHIAPENSIS Standl.—Tabasco: Retiro, in advanced forest, June 19–25, *Matuda 3423* (det. Standl.), a tree, 5 m. high, corolla white. Chiapas: ruins of Palenque, in advanced forest, July 10–12, *Matuda 3711* (det. Standl.), a small tree, 5 m. high, corolla white.

PSYCHOTRIA CUSPIDATA Bredem.—Tabasco: Achotal, east of Balancán, lakeside, May 9–14, *Matuda 3037*, a shrub, 2 m. high. Chiapas: Javalinero, in advanced forest, July 6–9, *Matuda 3608*, a shrub. Two species may be represented.

PSYCHOTRIA FLAVA Oerst.—Tabasco: La Palma, June 1–6, *Matuda 3264* (det. Standl.), a shrub; La Palma, in advanced forest, *Matuda 3286*, a shrub, 2.5 m. high, corolla white; San Isidro, in advanced forest, June 7–11, *Matuda 3373*, a small tree. Chiapas: ruins of Palenque, in advanced forest, July 10–12, *Matuda 3710* (det. Standl.), a small tree, 5 m. high.

PSYCHOTRIA FRUTICETORUM Standl.—Tabasco: La Palma, June 1–6, *Matuda 3266*, a shrub. The species is either very variable or else several distinct forms are being confused with it.

PSYCHOTRIA INVOLUCRATA Swartz.—Chiapas: Javalinero, in advanced forest, July 6–9, *Matuda 3623*, a shrub.

PSYCHOTRIA LIMONENSIS Krause.—Tabasco: Retiro, in advanced forest, June 19–25, *Matuda 3437*, a shrub.

PSYCHOTRIA MICRODON (DC.) Urban.—Tabasco: Estapilla, riverside, June 18, *Matuda 3481*, a shrub, corolla white.

PSYCHOTRIA MOMBACHENSIS Standl.—Tabasco: La Palma, in advanced forest, June 1–6, *Matuda 3236*, a shrub, corolla white.

PSYCHOTRIA OERSTEDIANA Standl.—Tabasco: Reforma, in forest, May 22–26, *Matuda 3146*, a shrub, 2.5 m. high, 4–6 cm. in diameter.

PSYCHOTRIA PUBESCENS Swartz.—Tabasco: Tenosique, in advanced forest, June 14–16, *Matuda 3393*, a shrub, corolla yellowish.

PSYCHOTRIA SESSILIFOLIA Mart. & Gal.—Tabasco: San Isidro, June 7–11, *Matuda 3390*, a shrub.

PSYCHOTRIA UNDATA Jacq.—Tabasco: San Isidro, in advanced forest, June 7–11, *Matuda 3366*, corolla white.

RANDIA ACULEATA L.—Tabasco: Mercedes, lakeside, May 9–

14, *Matuda 3019*, a tree, 6–7 m. high, 30–40 cm. in diameter; San Isidro, lakeside, June 7–11, *Matuda 3347*, a small tree; San Isidro, swampside, *Matuda 3358*, a small tree, 2.5 m. high.

RICHARDIA SCABRA L.—Chiapas: Javalinero, in second growth, July 6–9, *Matuda 3659*.

RONDELETIA STACHYOIDEA Donn. Sm.—Tabasco: Juarez, near Tenosique, in advanced forest, June 14–16, *Matuda 3392*, a shrub, 3 m. high.

RUDGEA CERATOPETALA Donn. Sm.—Chiapas: Javalinero, in advanced forest, July 6–9, *Matuda 3595* (det. Standl.), a shrub.

SICKINGIA sp. *Sickingia mollis* Lundell, *Contrib. Univ. Mich. Herb.*, 4:32. 1940, not *Sickingia mollis* Standl., *Field Mus. Bot.*, 11: 271. 1936.—Tabasco: Reforma, May 22–26, *Matuda 3161* (type collection of *S. mollis* Lundell), a tree. In a recent treatment of the Mexican and northern Central American species of *Sickingia* (Standley, *Field Mus. Bot.*, 22: 213. 1940), *S. mollis* Lundell was not taken into consideration. It is probable that the species is referable to one of the four now recognized by Standley.

SPERMACOCE GLABRA Michx.—Tabasco: La Palma, June 1–6, *Matuda 3238* (det. Standl.); La Palma, in second growth, *Matuda 3255* (det. Standl.).

CUCURBITACEAE

ANGURIA DIVERSIFOLIA Cogn.—Tabasco: La Palma, edge of forest, June 1–6, *Matuda 3313*.

MELOTHRIA GUADALUPENSIS (Spreng.) Cogn.—Tabasco: La Palma, in second growth, June 1–6, *Matuda 3309*.

SICYDIUM TAMNIFOLIUM (H. B. K.) Cogn.—Campeche: Palizada, lakeside, July 25–28, *Matuda 3829*.

LOBELIACEAE

(Determined by Rogers McVaugh, Washington)

LOBELIA BERLANDIERI A. DC.—Tabasco: Retiro, riverside, June 19–25, *Matuda 3422*, flowers blue.

LOBELIA CARDINALIS var. GRAMINEA McVaugh.—Tabasco: Tenosique, in savanna, June 14–16, *Matuda 3408*, corolla red.

COMPOSITAE

(Determined or verified by S. F. Blake, Washington)

ASTER EXILIS Ell.—Chiapas: Javalinero, in second growth, July 6–9, *Matuda 3631*.

CALEA TRICHOTOMA Donn. Sm.—Chiapas: Palenque, in savanna, July 9–14, *Matuda 3755;* Aguacate, July 16–18, *Matuda 3784*, a vine.

CHAPTALIA NUTANS (L.) Polak.—Chiapas: ruins of Palenque, edge of forest, July 10–12, *Matuda 3818*.

CIRSIUM MEXICANUM DC.—Chiapas: Javalinero, in second growth, swampside, July 6–9, *Matuda 3627*, flowers white.

EPALTES MEXICANA Less.—Tabasco: La Palma, in second growth, June 1–6, *Matuda 3315*.

ERECHTITES HIERACIFOLIA (L.) Raf.—Tabasco: Boca del Cerro, in swamp, July 1–5, *Matuda 3581*. Campeche: Palizada, swampside, July 25–28, *Matuda 3858*, flowers yellow.

ERIGERON BONARIENSIS L.—Chiapas: Aguacate, in second growth, July 16–18, *Matuda 3785*.

EUPATORIUM ALBICAULE Sch. Bip.—Tabasco: Reforma, May 22–26, *Matuda 3197*, a small tree, 3 m. high, 8 cm. in diameter; Achotal, east of Balancán, in advanced forest, May 9–14, *Matuda 3067*, a small tree, 3 m. high, 30 cm. in diameter; Tenosique, June 27, *Matuda 3529*.

EUPATORIUM MACROCEPHALUM Less.—Chiapas: Aguacate, in savanna, July 16–18, *Matuda 3816*.

EUPATORIUM MACROPHYLLUM L.—Tabasco: La Palma, in second growth, June 1–6, *Matuda 3268*.

GOLDMANELLA SARMENTOSA Greenm.—Tabasco: La Palma, June 1–6, *Matuda 3279*.

GYMNOCORONIS LATIFOLIA Hook. & Arn.—Campeche: Palizada, in swamp, July 25–28, *Matuda 3844*, flowers yellow.

HARLEYA OXYLEPIS (Benth.) Blake.—Tabasco: Retiro, in advanced forest, June 19–25, *Matuda 3445*, flowers reddish.

LIABUM SUBGLANDULARE Blake.—Tabasco: La Palma, in second growth, June 1–6, *Matuda 3311*.

MELANTHERA ANGUSTIFOLIA A. Rich.—Tabasco: Ojo de Agua,

southeast of Balancán, in savanna, May 9–14, *Matuda 3137;* Estapilla, in savanna, June 27, *Matuda 3502*, flowers white.

MELANTHERA HASTATA Michx.—Tabasco: Retiro, in second growth, June 19–25, *Matuda 3450.*

NEUROLAENA LOBATA (L.) R. Br.—Tabasco: San Isidro, in advanced forest, June 7–11, *Matuda 3335*, flowers yellow.

NOTOPTERA SCABRIDULA Blake.—Tabasco: Achotal, east of Balancán, May 9–14, *Matuda 3032*, a woody vine.

ORTHOPAPPUS ANGUSTIFOLIUS (Sw.) Gleason.—Tabasco: Estapilla, in savanna, June 27, *Matuda 3501*, flowers white.

PARTHENIUM HYSTEROPHORUS L.—Tabasco: La Palma, June 1–6, *Matuda 3291.*

PECTIS SATUREJOIDES (Mill.) Sch. Bip.—Tabasco: Estapilla, in savanna, June 27, *Matuda 3515*, flowers yellow.

PLUCHEA CAMPHORATA (L.) DC.—Campeche: Palizada, swamp-side, July 25–28, *Matuda 3859*, flowers reddish.

STRUCHIUM SPARGANOPHORUM (L.) Kuntze.—Tabasco: Retiro, in advanced forest, June 19–25, *Matuda 3419.*

VERNONIA CTENOPHORA Gleason (?).—Tabasco: Ojo de Agua, southeast of Balancán, in advanced forest, May 9–14, *Matuda 3112*, flowers purplish.

WEDELIA PARVICEPS Blake.—Chiapas: Palenque, in savanna, July 9–14, *Matuda 3757.*

WEDELIA TRILOBATA (L.) Hitchc.—Tabasco: La Palma, in second growth, June 1–6, *Matuda 3258;* Retiro, riverside, June 19–25, *Matuda 3473.* Campeche: Vapor, July 25–28, *Matuda 3910.*

STUDIES OF AMERICAN SPERMATOPHYTES—III*

PLANTS OF TEXAS, CHIAPAS, AND BRITISH HONDURAS

AS a co-operative project between the University of Michigan Herbarium and Southern Methodist University, a long term botanical survey of Texas was inaugurated in 1941. Field studies undertaken in Texas in 1940 were continued in 1941 and 1942. From Texas three new species in the genera *Xylosma*, *Bumelia*, and *Citharexylum*, two subspecies and two varieties of *Phlox*, and an albino form of *Leucophyllum frutescens* (Berl.) Johnston are described. Included also are a new genus, *Belìcea* of the Rubiaceae, discovered by Percy H. Gentle in southern British Honduras, and six new species from Chiapas and British Honduras in the genera *Colubrina*, *Aegiphila*, *Hyptis*, *Solanum*, and *Belìcea*.

The writer is indebted to the Faculty Research Fund of the University of Michigan for support in part of the Texas survey in 1940 and 1942.

Colubrina mollis Lundell, sp. nov.—Arbor parva; ramulis pubescentibus. Folia petiolata, petiolo 0.8–1.5 cm. longo, lamina membranacea, ovato-oblonga vel ovato-elliptica, 8.5–16 cm. longa, 4.3–8 cm. lata, apice acuminata, basi rotundata vel subcordata et abrupte acuta, remote dentato-serrata, supra glabrata, subtus pilosa, 3-nervia. Flores axillares, pedicellis 1.5–3.5 mm. longis. Calyx 5-lobatus, lobis 1.7–2 mm. longis. Petala 5, glabra. Stamina 5.

An unarmed tree, 12 to 15 m. high, 40 cm. in diameter; branchlets slender, straight, densely pubescent with pale reddish brown hairs. Petioles pubescent, slender, 0.8 to 1.5 cm. long. Leaf blades membranaceous, ovate-oblong or ovate-elliptic, 8.5 to 16 cm. long, 4.3 to 8 cm. wide, apex acuminate, base rounded or subcordate and abruptly acute, the acute base triangular, paler beneath, margin coarsely and remotely dentate-serrate, the teeth rounded,

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at first densely pubescent on both surfaces, upper surface glabrous with age except along the veins, lower surface persistently and densely soft pilose or subtomentose, 3-nerved at base, the veins impressed above, conspicuous beneath. Flowers numerous, fasciculate in the leaf axils or borne in dense subsessile cymes, pubescent. Pedicels slender, 1.5 to 3.5 mm. long. Calyx 5-lobed, the lobes triangular-ovate, 1.7 to 2 mm. long, glabrous within. Petals glabrous, cucullate, subequaling calyx lobes. Stamens 5. Disk flat.

Mexico: Chiapas, between Mazapa and Motozintla, altitude 1200 m., in advanced forest, July 19, 1941, *Eizi Matuda 4873* (type in the University of Michigan Herbarium).

The large thin leaves and persistent soft pubescence of the undersurface of the blade are characteristics by which *C. mollis* may be readily separated from *C. glomerata* (Benth.) Hemsl., the species to which it apparently has affinity.

Xylosma blepharodes Lundell, sp. nov.—Frutex; ramulis novellis puberulis. Folia petiolata, fasciculati, chartacea vel subcoriacea, oblanceolata, elliptica, vel ovato-elliptica, 1–5.5 cm. longa, 0.5–2.2 cm. lata, apice obtusa, basi cuneata, crenulato-serrulata. Flores fasciculati. Pedicelli fructiferi ad 6 mm. longi. Sepala 5, ciliata. Bacca subglobosa, ad 6 mm. diam.

Slender spiny shrub, about 2 m. high; branchlets slender, at first densely puberulent; spines slender, straight, up to 3.5 cm. long. Leaves alternate, usually clustered on short spurlike branchlets of older wood; petioles 0.5 to 2.5 mm. long, puberulent above. Leaf blades chartaceous to subcoriaceous, green, only slightly paler beneath, oblanceolate, elliptic, or ovate-elliptic, 1 to 5.5 cm. long, 0.5 to 2.2 cm. wide, apex obtuse or rounded, base attenuate-cuneate to broadly cuneate, margin crenulate-serrulate, the teeth rather remote, irregular and obtuse, puberulent above along the costa, glabrous otherwise, primary veins 5 or 6 on each side, slender, evident on both surfaces, reticulation inconspicuous. Flowers fasciculate. Pedicels slender, glabrous, jointed at base, up to 4 mm. long in fruit, usually short, the fruits sometimes subsessile. Sepals 5, unequal, ovate-oblong, 0.6 to 1.4 mm. long, acute, pubescent, conspicuously ciliate with stiff hairs. Fruits

subglobose, up to 6 mm. in diameter, glabrous; styles persistent, almost 1 mm. long.

TEXAS: Cameron County, in Palm Grove, south of Brownsville, April 6, 1941, *C. L. Lundell and Amelia A. Lundell 10000* (type in the University of Michigan Herbarium, duplicate in the herbarium of Southern Methodist University).

Bumelia riograndis Lundell, sp. nov.—Frutex; ramulis glabratis. Folia petiolata, petiolo 1.5–6 mm. longo, lamina chartacea, obovato-elliptica vel elliptica, 1.6–3.5 cm. longa, 1–1.8 cm. lata, apice rotundata, emarginata, basi cuneata. Flores fasciculati. Pedicelli ad 3 mm. longi. Sepala 5, 2–2.5 mm. longa. Corolla 3.5–4 mm. longa, glabra. Ovarium hirsutum.

Spiny shrub; branchlets reddish, short, nodose, glabrate, spine tipped. Leaves clustered on short spurlike branchlets of older wood; petioles slender, 1.5 to 6 mm. long, covered at first with loose hairs, glabrous with age. Leaf blades chartaceous, glabrous except for loose hairs along the midvein, obovate-elliptic or elliptic, 1.6 to 3.5 cm. long, 1 to 1.8 cm. wide, apex rounded, shallowly emarginate, cuneately narrowed at the base or acute, conspicuously but finely reticulate veined on both surfaces, the veins whitish, primary veins 7 or 8 on each side, costa plane above, elevated beneath. Flowers numerous, fasciculate. Pedicels slender, up to 3 mm. long, with a few loose hairs at anthesis. Calyx glabrescent; sepals 5, unequal, ovate-orbicular or depressed orbicular, 2 to 2.5 mm. long. Corolla glabrous, 3.5 to 4 mm. long, the lobes suborbicular, about 2.2 mm. long, minutely erose; appendages lanceolate, about 2 mm. long, acutish, erose. Staminodia petaloid, ovate, 2 mm. long, acutish. Ovary hairy. Style glabrous, about 1.5 mm. long.

TEXAS: Jim Hogg County, between Hebbronville and Rio Grande City, July, 1928, *B. C. Tharp s.n.* (type in the University of Michigan Herbarium).

Closely allied to *B. texana* Buckl.

PHLOX NIVALIS Lodd. subsp. **texensis** Lundell, subsp. nov.—Suffruticosa. Caules pubescentes, ad 45 cm. longi, dense foliati. Folia rigidula, lineari-subulata vel lineari-lanceolata, 2.5–30 mm.

longa, ad 3 mm. lata. Cymae 1–5-florae. Pedicelli 3–25 mm. longi. Calyx glandulosus, 6.5–9 mm. longus, lobis tubo aequilongis vel subaequilongis. Corolla glabra, lobis bifido-emarginatis. Stylus 1.5–2.5 mm. longus; ovarii loculi uniovulati vel biovulati. Semina ellipsoidea, 2.2 mm. longa, rugulosa.

Perennial, stems woody at base, trailing or decumbent, up to 45 cm. long, with numerous axillary latent shoots, often matted; flowering shoots lax, erect, up to 20 cm. long, pubescent, the hairs inconspicuously glandular. Leaves persistent, sessile, very dense on the latent shoots, linear-subulate and canaliculate or linear-lanceolate and essentially plane, 2.5 to 30 mm. long, usually acicular, rarely up to 3 mm. wide, apex spinescent, usually reflexed, the margin ciliate with stiff hairs. Cymes usually 3- to 5-flowered, sometimes reduced to 1 flower. Pedicels slender, glandular-pubescent, 3 to 25 mm. long. Calyx glandular-pubescent, 6.5 to 9 mm. long, the lobes equaling or subequaling the tube, spinescent. Corolla glabrous outside, variable in size and color, fragrant, pink, rose-pink, bluish, lavender, or purplish, the eye reddish or purplish; tube up to 15 mm. long, villous within at base; lobes usually 5, rarely 4, obovate or cuneately obovate, up to 12 mm. long, typically with a conspicuous sinus up to 2.5 mm. deep, rarely only erose and shallowly emarginate. Stamens usually 5, rarely 4, usually included, rarely with tips of anthers exserted from corolla tube. Ovary 3-celled, usually with 1 ovule in each cell, sometimes with 2 ovules in a cell; style short, 1.5 to 2.5 mm. long; stigma 3-lobed, 1 to 1.3 mm. long. Capsule glabrous; seed ellipsoid, 2.2 mm. long, rugulose.

Texas: Tyler County, south of Woodville, in rolling pine land, April 18, 1942, *C. L. Lundell and Amelia A. Lundell 11282* (type in the University of Michigan Herbarium, duplicate in the herbarium of Southern Methodist University); about 4 miles south of Woodville, in pine land, April 13, 1942, *Lundell and Lundell 11122, 11125, 11126*; about 5 miles north of Warren, in rolling pine land, April 18, 1942, *Lundell and Lundell 11278;* about 6 miles north of Warren, in rolling pine land, April 18, 1942, *Lundell and Lundell 11280;* south of Woodville, in rolling

pine land, April 18, 1942, *Lundell and Lundell 11284*, vernacular name, *moss phlox*.

The Texas plant, first called to the writer's attention by Edgar T. Wherry, is abundant in the pine lands off U. S. highway 69, between Woodville and Warren in Tyler County. Mr. and Mrs. G. M. Soxman of Dallas directed the author to this locality.

The subspecies may be distinguished immediately by the pronounced sinus of the corolla lobes. In the typical form of the species, the lobes are merely erose or inconspicuously emarginate. The glandular hairs of *P. nivalis texensis* are scarcely evident in dried material. Further, the leaves of the latent shoots apparently are more acicular and denser than in the usual form of the species.

PHLOX PILOSA L. subsp. **pulcherrima** Lundell, subsp. nov.—Perennis. Caulis erectus, ad 60 cm. altus, pubescentibus. Folia sessilia, linearia vel anguste lineari-lanceolata, ad 12.5 cm. longa, 2–6 mm. lata, ciliata. Flores in corymbis terminalibus, pedicellis 3–18 mm. longis. Calyx eglandulose villosus, lobis linearibus tubo longioribus. Corolla rosea, glabra. Stylus 1–1.3 mm. longus.

Perennial, erect, up to 60 cm. high, plants usually solitary; stems terete, pubescent with short eglandular recurved hairs, glabrescent, the latent shoots erect, shorter than the flowering shoots; internodes elongate above; nodes 7 to 10. Leaves opposite, sessile, chartaceous, linear or narrowly linear-lanceolate, up to 12.5 cm. long, 6 mm. wide, usually less than 3 mm. wide, attenuate to the spinescent apex, sparsely pubescent, glabrescent, persistently ciliate at base with coarse hairs, upper surface obscurely papillate, the midvein impressed. Cymes in terminal corymb; the inflorescence variable, open to compact, usually few-flowered, up to 15 cm. wide, 12 cm. high; foliaceous bracts spreading or reflexed, those at base lanceolate, slightly wider than the leaves. Pedicels often less than 5 mm. long, sometimes up to 18 mm. long, pubescent with short recurved eglandular hairs. Calyx up to 13 mm. long, the lobes longer than the tube, subulate or linear, conspicuously awn-tipped. Corolla variable in size, rose-pink with darker reddish eye; tube glabrous outside, up to 21

mm. long, short villous within at base; lobes glabrous, obovate, up to 16 mm. long, 15 mm. wide, apex apiculate or rounded. Upper stamens barely included; anthers oblong, up to 3 mm. long. Ovary with 1 ovule in each cell; style very short, 1 to 1.3 mm. long; stigma up to 2 mm. long.

Texas: Angelina County, east of Zavalla, off highway 63, in pine land, May 8, 1941, *C. L. Lundell and Amelia A. Lundell 10557.* Cherokee County, northwest of Rusk, off U. S. highway 69, in woodland, May 8, 1941, *Lundell and Lundell 10563.* Hardin County, about 2 miles southwest of Kountze, in pine land, April 14, 1942, *Lundell and Lundell 11153, 11154* (type in the University of Michigan Herbarium, duplicate in the herbarium of Southern Methodist University). Jasper County, northwest of Jasper, off highway 63, in pine land, May 8, 1941, *Lundell and Lundell 10553.* Polk County, east of Livingston, in pine land, April 18, 1942, *Lundell and Lundell 11287.* Sabine County, near Bronson, off U. S. highway 96, in pine land, May 7, 1941, *Lundell and Lundell 10505;* Brookeland, in pine land, May 7, 1941, *Lundell and Lundell 10508.* Tyler County, about 4 miles south of Woodville, in pine land, April 13, 1942. *Lundell and Lundell 11124;* northwest of Woodville, in pine land, April 13, 1942, *Lundell and Lundell 11164;* about 5 miles north of Warren, in rolling pine land, April 18, 1942, *Lundell and Lundell 11276;* south of Woodville, in rolling pine land, April 18, 1942, *Lundell and Lundell 11281,* flowers faintly fragrant. Walker County, east of Huntsville, in forest, April 18, 1942, *Lundell and Lundell 11295.*

The plant is currently passing as *Phlox pilosa* var. *amplexicaulis* (Raf.) Wherry. The true identity of *P. amplexicaulis* Raf. is very doubtful, for the description is so broad and inadequate that it could be interpreted to cover several species, as well as various southern forms of *P. pilosa.* To assign the name arbitrarily can serve no useful purpose. Brand referred it with doubt to *P. divaricata* L. (*Pflanzenreich* IV. 250: 72. 1907).

P. pilosa pulcherrima is one of the finest of the Texas phloxes. The beauty of its large rose-pink corollas is scarcely equaled by any other form. In Tyler County, evidently the center of distribution, it occurs throughout the pine lands.

The long straggly eglandular hairs of the calyx, the slender calyx lobes, the glabrous rose-pink corolla, the tall slender habit, the long linear leaves sparingly pubescent and persistently ciliate at base are the primary differentiating characteristics of the subspecies. The wide field observations indicate that there is a close correlation between the type of pubescence and corolla color.

PHLOX PILOSA PULCHERRIMA var. **typica** Lundell, var. nov.—Calyx eglandulose villosus. Corolla glabra.

The usual widespread form of the subspecies, typified by *Lundell and Lundell 11154*, has large glabrous corollas.

Another form, apparently uncommon, has pubescent corolla tubes; it may be known as follows:

PHLOX PILOSA PULCHERRIMA var. **pubiflora** Lundell, var. nov.—Calyx eglandulose villosus. Corollae tubus parce pubescens.

TEXAS: Cherokee County, northwest of Wells, off U. S. highway 69, in woodland, May 8, 1941, *C. L. Lundell and Amelia A. Lundell 10561*. Walker County, east of Huntsville, in forest, April, 18, 1942, *Lundell and Lundell 11472* (type in the University of Michigan Herbarium, duplicate in the herbarium of Southern Methodist University), perennial, corolla rose-pink, the tube short villous, eglandular.

Aegiphila wigandioides Lundell, sp. nov.—Arbor parva; ramulis cinereo-tomentosis. Folia petiolata, petiolo 1–1.4 cm. longo, lamina membranacea vel subchartacea, ovata vel lanceolata, 7–14 cm. longa, 4–7 cm. lata, apice attenuata, acuminata, basi rotundata, supra villosa, subtus cinereo-tomentosa. Cymae axillares et terminales, pedunculatae, cinereo-tomentosae. Calyx ca. 1.2 cm. longus, lobis 4. Corolla glabra. Stamina 4.

A tree, 7 meters high; branchlets terete, canescent-tomentose, becoming glabrate in age and reddish brown. Leaves decussate; petioles 1 to 1.4 cm. long, tomentose. Leaf blades membranaceous or subchartaceous, grayish green, paler beneath, ovate or lanceolate, 7 to 14 cm. long, 4 to 7 cm. wide, apex attenuate, acuminate, base rounded, margin entire, densely and persistently short villous above, the hairs multicellular and enlarged at base, canescent-

tomentose beneath, costa prominent on undersurface, primary veins conspicuous, 5 to 7 on each side. Cymes axillary and terminal, solitary in the axils, compactly flowered, canescent-tomentose; peduncles stout, up to 2.5 cm. long; bractlets filiform, villous. Pedicels slender, up to 2 mm. long, villous. Calyx obconic-campanulate, about 1.2 cm. long, 5 mm. wide, villous, 4-lobed, the lobes ovate-triangular, 2 to 3 mm. long, obtuse. Corolla glabrous, infundibular, the tube slender, 1.1 to 1.3 cm. long, ampliate above; lobes 4, elliptic or oblong-elliptic, up to 5.5 mm. long, 4 mm. wide, apex obtuse or rounded. Stamens 4, equal, exserted. Ovary glabrous; style filiform; stigma bifid.

Mexico: Chiapas, Santa Rosa, near Escuintla, altitude 1600 m., in advanced forest, June 20, 1941, *Eizi Matuda 4253* (type in the University of Michigan Herbarium).

Apparently, the species is related to *A. Deppeana* Steud., but the denser persistent indument and large calyx amply distinguish it. The superficial resemblance to *Wigandia* of the Hydrophyllaceae is remarkable.

Citharexylum spathulatum Moldenke & Lundell, sp. nov.—Frutex, ramulis glabris. Folia chartacea, glabra, spathulata, 0.8–2.5 cm. longa, 2.5–5 mm. lata, apice rotundata, basi attenuata; petiolis nullis. Inflorescentiae 1- raro 2-florae, terminales. Calyx campanulatus, ca. 3.5 mm. longus. Corolla alba, 6 mm. longa. Stamina 4. Ovarium glabrum.

A shrub, 1 m. high, openly branched; branches and branchlets slender, glabrous; twigs usually sharp pointed, quadrangular or subterete, the youngest shoots short hirtellous at the nodes, essentially glabrous otherwise. Leaf scars small, short stalked; leaves opposite on young shoots, clustered on short spurlike branchlets of older wood; petioles none. Leaf blades green, chartaceous, entirely glabrous or with a few short stiff hairs at apex, spathulate, usually 0.8 to 2.5 cm. long, sometimes shorter, 2.5 to 5 mm. wide, apex usually rounded, sometimes shallowly emarginate, acutish, or apiculate, base attenuate and very slender, entire, midrib discernible but inconspicuous, veins not evident. Flowers fragrant, usually 1, rarely 2, terminating the very short spurlike

branchlets. Pedicels very short, densely white-hirtellous. Calyx campanulate, about 3.5 mm. long, contracted at base into stipe about 0.5 mm. long, usually 5- rarely 4-ribbed, the rim bearing 5 thick reflexed teeth, truncate or toothed between the primary teeth, sparsely short appressed-hirtellous, ciliolate. Corolla white, sparsely hairy, 6 mm. long; the tube about 3.5 mm. long; the lobes ovate, rounded at apex, ciliate; throat and upper half of tube densely barbate. Stamens 4, included; filaments hairy; staminode rudimentary, hairy. Ovary glabrous; style 1 mm. long, basal half stipitate-glandular. Fruits unknown.

Texas: Hidalgo County, 11 miles north of Mission, on sand in open scrub, April 4, 1941, *C. L. Lundell and Amelia A. Lundell 9953* (type in the University of Michigan Herbarium, duplicate in the herbarium of Southern Methodist University).

This is evidently the plant described as *Citharexylum brachyanthum* var. *glabrum* C. L. Hitchc. & Moldenke (Fedde, *Repert.*, 37: 218. 1934). The glabrous longer leaves, glabrous branchlets, and differences in the flowers indicate that a distinct species is represented.

In *C. spathulatum* the calyx rim bears 5 thick reflexed teeth terminating the ribs of the tube; between these primary teeth, the margin is truncate or shallowly toothed. The calyx rim is suggestive of the genus *Lycianthes* in the Solanaceae. In *C. brachyanthum* the calyx has 5 conspicuous teeth with well-developed sinuses between each. Further, the flowering calyx of *C. brachyanthum* is somewhat smaller, the ribs are less evident, and the pubescence is dense. The corolla of *C. brachyanthum* is a third smaller.

The interpretation of the flowers of *C. brachyanthum* is based upon *Forrest Shreve 8421* from Coahuila, Mexico.

Hyptis belizensis Lundell, sp. nov.—Herba erecta, ramulis novellis adpresse hirtellis. Folia petiolata, petiolo marginato, lamina subcoriacea, hirtella, anguste oblongo-lanceolata vel oblanceolata, 6–15 cm. longa, 0.7–1.7 cm. lata, apice acuta vel acuminata, basi attenuata, supra bullata. Inflorescentiae capitatae, axillares, pedunculatae. Pedunculi ad 3 cm. longi. Capitula ad 2.5 cm. diam. Calyx ad 1 cm. longus. Corolla alba, tubo ad 5 mm. longo.

An erect perennial herb, up to 90 cm. high, with woody root 5 cm. in diameter; stems quadrangular and densely appressed-hirtellous above, subterete and glabrous below, reddish brown. Petioles narrowly winged to base by the narrowly attenuate decurrent leaf blades, appressed-hirtellous. Leaf blades rigid, subcoriaceous, minutely hirtellous on both surfaces, narrowly oblong-lanceolate or oblanceolate, 6 to 15 cm. long (including petioles), 0.7 to 1.7 cm. wide, apex attenuate, acute or acuminate, base attenuate, decurrent to the stem, margin irregularly serrate, costa and veins impressed above, prominent beneath, the upper surface bullate. Peduncles solitary, axillary, appressed hirtellous, up to 3 cm. long. Flowers in globose echinate capitula up to 2.5 cm. in diameter, subtended by lanceolate acuminate spreading or reflexed bracts up to 11 mm. long. Calyx at maturity up to 1 cm. long, the erect stiff subulate teeth subequaling the tube, the indument persistent. Corolla white, pubescent, its tube up to 5 mm. long. Nutlets smooth.

British Honduras: Toledo District, Swasey Branch, Monkey River, edge of hammock in pine ridge, Jan. 28, 1942, *Percy H. Gentle 3896* (type in the University of Michigan Herbarium), flowers white, becoming reddish after four days.

H. belizensis, which is nearest *H. lanceolata* Poir., differs from that species in having very narrow leaf blades, persistent indument, and long subulate calyx teeth. The peculiarities of the British Honduran plant were first pointed out by Epling (*Carnegie Inst. Wash. Publ.*, 522: 242. 1940).

Solanum Gentlei Lundell, sp. nov.—Arbor parva; ramulis albido-stellato-tomentosis. Folia petiolata, petiolo ad 5 mm. longo, lamina membranacea, supra viridis, subtus albido-stellato-tomentosa, oblongo-lanceolata, anguste elliptica, vel oblanceolata, 8–22 cm. longa, 3.5–7.7 cm. lata, apice subabrupte acuminata, basi acuta. Inflorescentiae terminales, albido-tomentosae, cymoso-corymbosae, ad 6 cm. longae Pedicelli ad 1 cm. longi. Calyx ca. 2.8 mm. longus. Corolla ca. 6 mm. longa, profunde lobata. Bacca globosa, glabra, ca. 6.5 mm. diam.

A small unarmed tree; branchlets slender, white tomentose

with fine stellate hairs. Leaves alternate, sometimes with a reduced opposite leaf; petioles short, canaliculate, tomentose, usually less than 5 mm. long, rarely up to 8 mm. long. Leaf blades membranaceous, dark green above and sparsely stellate pubescent, persistently white tomentose on undersurface with fine stellate hairs, the hairs sessile and stalked, oblong-lanceolate, narrowly elliptic, or oblanceolate, 8 to 22 cm. long, 3.5 to 7.7 cm. wide, apex subabruptly acuminate, base acute, often with subequal sides, margin entire, veins impressed above, conspicuous beneath, primary veins 5 or 6 on each side. Inflorescence terminal, white tomentose, cymose-corymbose, up to 6 cm. long, with peduncles up to 2.5 cm. long. Pedicels usually recurved, slender below, thickened above, up to 1 cm. long in fruit. Calyx white tomentose with fine stellate hairs, campanulate, about 2.8 mm. long, 5-lobed almost to the middle, the lobes apiculate, scarcely accrescent in fruit. Corolla about 6 mm. long, the lobes ovate-oblong, about 3.5 mm. long, acutish, finely stellate-tomentose outside, glabrous within. Anthers blunt. Ovary white tomentose above. Fruits globose, glabrescent, about 6.5 mm. in diameter.

British Honduras: Toledo District, Swasey Branch, Monkey River, in high ridge between river and pine land, March 7, 1942, *Percy H. Gentle 3944* (type in the University of Michigan Herbarium), small tree, leaves white on underside, flowers white, berries green.

The species is related to *S. salviifolium* Lam.

Solanum mayanum Lundell, sp. nov.—Frutex parce aculeatus; ramulis stellato-tomentosis. Folia longe petiolata, petiolo ad 5.5 cm. longo, lamina sinuato-lobata, membranacea, elliptica vel ovato-elliptica, 8–15 cm. longa, 3.5–10 cm. lata, apice acuta vel acuminata, basi rotundata et abrupte acuta, supra stellato-hirtella, subtus stellato-pilosa. Inflorescentiae extra-axillares, cymosae, stellato-tomentosae, pedunculatae. Pedicelli fructiferi ad 1.8 cm. longi. Calyx stellato-tomentosus, 5 mm. longus, ad medium 5-lobus. Corolla alba, fere 1.3 cm. longa, fere ad basin 5-loba. Antherae 6–7 mm. longae. Bacca globosa, glabra.

A shrub; branches armed with prickles up to 5 mm. long;

branchlets slender, sparsely aculeate with prickles about 2 mm. long, gray tomentose with appressed stellate hairs. Leaves alternate; petioles slender, sometimes armed, gray tomentose, canaliculate, up to 5.5 cm. long. Leaf blades membranaceous, elliptic or ovate-elliptic, 8 to 15 cm. long, 3.5 to 10 cm. wide, apex acute or short acuminate, base rounded and acute, the sides often unequal, margin sinuate-lobate or sinuate-dentate, usually with two or three shallow lobes on each side, sometimes entire or subentire, green and sparsely stellate-hirtellous above, paler and stellate-pilose beneath, the hairs with a short central ray. Inflorescence cymose, extra-axillary, up to 4.5 cm. long, gray tomentose with stellate hairs. Pedicels of flowers slender, up to 1.3 cm. long, thickened above and up to 1.8 cm. long in fruit. Calyx thinly stellate-tomentose, 5 mm. long, 5-lobed to the middle, the lobes ovate-triangular, apiculate, not accrescent. Corolla white, about 1.3 cm. long, thinly stellate-tomentose outside, 5-lobed almost to the base, the lobes lanceolate, attenuate. Anthers attenuate, 6 to 7 mm. long. Ovary very inconspicuously stipitate-glandular, essentially glabrous. Fruits globose, glabrous.

BRITISH HONDURAS: Toledo District, near Cowpen, Swasey Branch, Monkey River, in broken ridge, March 16, 1942, *Percy H. Gentle 3976* (type in the University of Michigan Herbarium), vernacular name, *broken ridge sosumbra*.

S. mayanum has affinity to *S. Hoffmannii* Bitter of Costa Rica.

LEUCOPHYLLUM FRUTESCENS (Berl.) Johnston f. **albineum** Lundell, f. nov.—A forma typica corolla albo recedit.

TEXAS: Cameron County, about 8 miles west of Boca Chica, in scrub on low ridge, March 12, 1942, *C. L. Lundell and Amelia A. Lundell 10699* (type in the University of Michigan Herbarium, duplicate in the herbarium of Southern Methodist University), a shrub, 4 feet high, flower buds yellowish, corolla white.

This rare albino form is well worthy of attention by horticulturists. In typical *L. frutescens* the corollas are rose-pink and maculate in throat.

Belìcea Lundell, gen. nov. *Rubiacearum*.—Frutex. Stipulae persistentes, abrupte cuspidatae. Folia longe petiolata, magna,

membranacea. Inflorescentiae capitatae, axillares, fasciculatae, brevissime pedunculatae, floribus sessilibus. Calyx cum hypanthio ca. 1.5 mm. longus, subtruncatus, minute 5-denticulatus. Corolla subtubulata, parva, lobis valvatis. Stamina 5. Antherae semiexsertae. Ovarium 4-loculare, loculis uniovulatis. Capitula fructifera paucicarpellata, mammosa.

Type species, *Belìcea hoffmannioides* Lundell.

The genus, referable to the tribe Morindeae, is nearest *Morinda*. It differs from that genus primarily in having fruits which cohere at base only to form a mammose head. The fruits of *Belìcea* superficially resemble those of *Castilla elastica* Cerv. In *Morinda* the fruit is a fleshy globose syncarp.

In Mexico and Central America, British Honduras is known as Belìce, the name which the genus commemorates.

Belìcea hoffmannioides Lundell, sp. nov.—Frutex. Stipulae abrupte cuspidatae, ad 4 mm. longae. Folia longe petiolata, membranacea, elliptica vel obovato-elliptica, 11–26 cm. longa, 3–11 cm. lata, apice subabrupte acuminata, basi attenuata. Inflorescentiae pauciflorae. Flores albi. Corolla puberula, 7 mm. longa. Filamenta parce pilosa. Capitula fructifera ad 1.5 cm. diam.

A shrub; branchlets rather stout, densely puberulent, drying black. Stipules puberulent, persistent, ovate-triangular or suborbicular, abruptly cuspidate, up to 4 mm. long. Petioles slender, canaliculate, minutely puberulent, 2 to 3.5 cm. long, slightly winged above by the decurrent blade. Leaf blades membranaceous, elliptic or obovate-elliptic, 11 to 26 cm. long, 3 to 11 cm. wide, apex subabruptly acuminate, base attenuate, decurrent, the margin undulate, costa and veins minutely puberulent on undersurface, glabrous otherwise, costa nearly plane above, prominent beneath, primary veins 9 to 12 on each side, anastomosing near the margin. Flowers capitate, sessile, white; heads borne on short peduncles fasciculate in the leaf axils; subtending bracts, peduncles, calyx, and corolla puberulent. Calyx, including hypanthium, about 1.5 mm. long, subtruncate, the 5 teeth minute. Corolla 7 mm. long, including lobes about 2 mm. long, the tube pubescent within throat, the lobes valvate, triangular-ovate, acutish.

Stamens 5; filaments inserted at middle of tube, about 1.8 mm. long, sparsely pilose; anthers versatile, attached below middle, linear-oblong, about 1.8 mm. long, apical part exserted from tube. Ovary 4-celled, with a solitary ovule in each cell attached near base of septum; style included, puberulent; stigma bilobed. Fruits coherent at base only, depressed apically, containing 2 to 4 flat pyrenes 4.5 to 6 mm. long; the heads mammose, up to 1.5 cm. in diameter, borne on peduncles less than 5 mm. long.

BRITISH HONDURAS: Toledo District, Swasey Branch, Monkey River, near the falls, in high ridge, March 7, 1942, *Percy H. Gentle 3945* (type in the University of Michigan Herbarium).

In habit and leaf form the species suggests *Hoffmannia*.

The Usumacinta River with a view of Boca del Cerro.

The Usumacinta River with an inner view of Boca del Cerro.

The expedition crossing a savanna east of Palenque.

Javalinero on the Chacamax River below Palenque.

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